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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
60/151,120	08/27/99		\$200.00	36968		0	

JOHN S PRATT ESQ
KILPATRICK STOCKTON L L P
1100 PEACHTREE STREET SUITE 2800
ATLANTA GA 30309-4530

Receipt is acknowledged of this Provisional Application. This Provisional Application will not be examined for patentability. Be sure to provide the PROVISIONAL APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Provisional Application Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts of Application" ("Missing Parts Notice") in this application, please submit any corrections to this Filing Receipt with your reply to the "Missing Parts Notice." When the PTO processes the reply to the "Missing Parts Notice," the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate). This Provisional Application will automatically be abandoned twelve (12) months after its filing date and will not be subject to revival to restore it to pending status beyond a date which is after twelve (12) months from its filing date.

Applicant(s) WARD M. CHEWNING III, LAWRENCEVILLE, GA; FARIBORZ BEHI, DUNWOODY, GA; MARTIN ALAN COOPER, DUNWOODY, GA.

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 09/10/99
TITLE
ADSL NETWORK MANAGEMENT SYSTEM

Entered Computer 10/22/99
194346

DATA ENTRY BY: SMALL, DONNA

TEAM: 05 DATE: 10/07/99



(See reverse for new important information)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ward M. Chewning III, et al.

Serial No.: 60/151,120

Filed: August 27, 1999

For: **ADSL NETWORK MANAGEMENT SYSTEM**

Assistant Commissioner for Patents
Washington, D.C. 20231

REQUEST FOR ISSUANCE OF A CORRECTED FILING RECEIPT

Sir:

Applicant respectfully requests issuance of a corrected filing receipt for the above-identified provisional patent application with the following correction of the inventors:

Delete "FARI BEHI" and replace therefor --**FARIBORZ BEHI**--

Delete "MARTIN COOPER" and replace therefor --**MARTIN ALAN COOPER**--

Martin Alan Cooper's residence should be --**DUNWOODY, GA**--.

Enclosed is a copy of the Filing Receipt with corrections.

CERTIFICATE OF MAILING (37 CFR 1.8a)

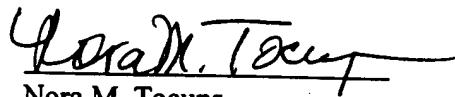
I hereby certify that this correspondence, along with any paper referred to as being attached or enclosed, is being deposited with the United States Postal Service on this 23 day of September 1999 with sufficient postage as first-class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Ward M. Chewning

U.S.S.N.: 60/151,120
Filed: August 27, 1999
For: ADSL NETWORK MANAGEMENT SYSTEM

The Commissioner is authorized to charge any additional fees which may be due, or credit any overpayment to Deposit Account No. 11-0855.

Respectfully submitted,



Nora M. Tocups
Reg. No. 35,717

Docket No.: 36968/194346
KILPATRICK STOCKTON LLP
1100 Peachtree Street, Suite 2800
Atlanta, Georgia 30309
404.815.6500



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
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Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
60/151,120	08/27/99		\$150.00	36968		0	

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1100 PEACHTREE STREET SUITE 2800
ATLANTA GA 30309-4530

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Applicant(s) WARD M. CHEWNING III, LAWRENCEVILLE, GA; ~~ANDREW BEHI,~~
DUNWOODY, GA; MARTIN COOPER, ~~RESIDENCE~~, GA.
ALAN DUNWOODY

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 09/10/99
TITLE
ADSL NETWORK MANAGEMENT SYSTEM

Entered Computer 9/16/99
194346

DATA ENTRY BY: TWIITY, MARSHA TEAM: 05 DATE: 09/10/99



(See instructions on reverse side)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ward M. Chewning III, et al.

Serial No.: 60/151,120

Filed: August 27, 1999

For: ADSL NETWORK MANAGEMENT SYSTEM

Box MISSING PARTS
Assistant Commissioner for Patents
Washington, D.C. 20231

RESPONSE TO
NOTICE TO FILE MISSING PARTS OF APPLICATION
FILING DATE GRANTED

Sir:

In response to the Notice to File Missing Parts of Application Filing Date Granted mailed on September 13, 1999, the city of residence for inventor Martin Cooper is Dunwoody, Georgia. Enclosed is a check in the amount of \$50.00 and a copy of the Notice to File Missing Parts of Application Filing Date Granted.

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194346

CERTIFICATE OF MAILING (37 CFR 1.8a)

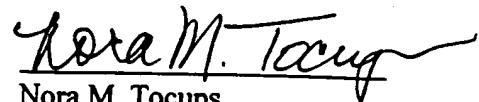
I hereby certify that this correspondence, along with any paper referred to as being attached or enclosed, is being deposited with the United States Postal Service on this 23 day of September 1999 with sufficient postage as first-class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Leanne H. Tard

U.S.S.N.: 60/151,120
Filed: August 27, 1999
For: ADSL NETWORK MANAGEMENT SYSTEM

The Commissioner is authorized to charge any additional fees which may be due, or credit any overpayment to Deposit Account No. 11-0855.

Respectfully submitted,



Nora M. Tocups
Reg. No. 35,717

Docket No.: 36968/194346
KILPATRICK STOCKTON LLP
1100 Peachtree Street, Suite 2800
Atlanta, Georgia 30309
404.815.6500



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARK
Washington, D.C. 20231

APPLICATION NUMBER	FILED/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE
60/745142	06/22/99	THE DRAZEN	

60/745142 06/22/99 THE DRAZEN

60/745142 06/22/99
THE DRAZEN
1100 CHAMBERS STREET, SUITE 2500
ATLANTA, GA 30360-3000

1100 CHAMBERS

ATLANTA, GA 30360-3000

1100 CHAMBERS

DATE MAILED:

NOTICE TO FILE MISSING PARTS OF PROVISIONAL APPLICATION

Filed Under 37 CFR 1.53(e)

Filing Date Granted

An Application Number and Filing Date have been assigned to this Provisional Application. The items indicated below, however, are missing. Applicant is given TWO MONTHS FROM THE DATE OF THIS NOTICE within which to file all required items and pay fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). If any of items 1 or 2 are indicated as missing, the SURCHARGE set forth in 37 CFR 1.16(l) of \$25.00 for a small entity in compliance with 37 CFR 1.27, or \$50.00 for a non-small entity, must also be timely submitted in reply to this NOTICE to avoid abandonment.

If all required items on this form are filed within the period set below, the total amount owed by applicant as a:

small entity (statement filed) non-small entity is \$ 50.

1. The statutory provisional application filing fee is:

missing.
 insufficient.

Applicant must submit \$ _____ to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).

2. The provisional application cover sheet under 37 CFR 1.151(c)(1) is required identifying:

either the city and state or city and foreign country of the residence of each inventor. *
 the title of the invention.

3. The application was filed in a language other than English.

Applicant must file a verified English translation of the application, the \$130.00 set forth in 37 CFR 1.17(k), unless previously submitted, and a statement that the translation is accurate (37 CFR 1.52(d)).

4. A \$50.00 processing fee is required since your check was returned without payment (37 CFR 1.21(m)).

5. Your filing receipt was mailed in error because your check was returned without payment.

6. The drawings contained in the application cannot be scanned or properly stored because they
 do not comply with the size requirements (8-1/2 by 11 inches or 21.0 by 29.7 cm).
 are not clear enough or in permanent ink.

7. The specification cannot be scanned or properly stored. Page(s):

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* 8. Other: Mr. Cooper's city of residence is missing.

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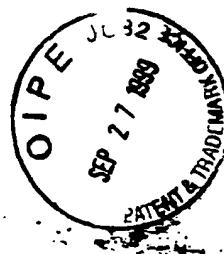
The "Received" stamp of the Patent Office imprinted hereon will acknowledge receipt of:

Applicant:	Ward M. Chewning III, et al.	
Application No.	60/151,120	Docket No.:
Filing Date	August 27, 1999	36968/194346

PAPERS SUBMITTED:

- 1. Response to Notice to File Missing Parts of Application Filing Date Granted
- 3. Copy of Notice to File Missing Parts of Application Filing Date Granted
- 4. Check for \$50.00
- 4. Request for Issuance of a Corrected Filing Receipt
- 4. Copy of Provisional Application Filing Receipt with Corrections

By: Nora M. Tocups, Reg. No. 35,717
Date: September 23, 1999



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Applicants: Ward M. Chewning III, et al.
Application No.: 60/151,120 Docket No.:
Filing Date: August 27, 1999 36968/194346

PATENTS SUBMITTED:

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By: Nora M. Tocup, Reg. No. 35,717
Date: September 23, 1999



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARK
Washington, D.C. 20231

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE
60/151,120	08/27/99	CHEWNING	W W.M.C.

JOHN S PRATT ESO
KILPATRICK STOCKTON L.L.P.
1100 PEACHTREE STREET SUITE 2800
ATLANTA GA 30309-4530

0252/0913

NOT ASSISTED

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DATE MAILED:

08/27/99

NOTICE TO FILE MISSING PARTS OF PROVISIONAL APPLICATION

Filled Under 37 CFR 1.53 (c)

Filing Date Granted

An Application Number and Filing Date have been assigned to this Provisional Application. The items indicated below, however, are missing. Applicant is given TWO MONTHS FROM THE DATE OF THIS NOTICE within which to file all required items and pay fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). If any of items 1 or 2 are indicated as missing, the SURCHARGE set forth in 37 CFR 1.16(l) of \$25.00 for a small entity in compliance with 37 CFR 1.27, or \$50.00 for a non-small entity, must also be timely submitted in reply to this NOTICE to avoid abandonment.

If all required items on this form are filed within the period set below, the total amount owed by applicant as a
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1. The statutory provisional application filing fee is:

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2. The provisional application cover sheet under 37 CFR 1.151(c)(1) is required identifying:
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the title of the invention.

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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
60/151,120	08/27/99		\$150.00	36968		0	

JOHN S PRATT ESQ
KILPATRICK STOCKTON L L P
1100 PEACHTREE STREET SUITE 2800
ATLANTA GA 30309-4530

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Applicant(s) WARD M. CHEWNING III, LAWRENCEVILLE, GA; FARI BEHI,
DUNWOODY, GA; MARTIN COOPER, RESIDENCE, GA.

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 09/10/99
TITLE
ADSL NETWORK MANAGEMENT SYSTEM

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DATA ENTRY BY: TWIITY, MARSHA

TEAM: 05 DATE: 09/10/99



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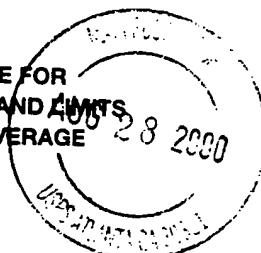
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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

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Express Mail Label No.:	EL209595965US		Docket No.	36968	Type a plus sign (+) inside this box →	+
<i>INVENTOR(s)/APPLICANT(s)</i>						
Last Name	First Name	Middle Initial	Residence (City and either State or Foreign Country)			
Chewning, III	Ward	M.	Lawrenceville, Georgia			
Behi	Fari		Dunwoody, Georgia			
Cooper	Martin		Georgia			
<i>TITLE OF THE INVENTION (280 characters max)</i>						
ADSL NETWORK MANAGEMENT SYSTEM						
<i>CORRESPONDENCE ADDRESS</i>						
John S. Pratt, Esq. Kilpatrick Stockton L.L.P 1100 Peachtree Street, Suite 2800 Atlanta, Georgia 30309-4530 U.S.A.						
<i>APPLICATION PARTS ENCLOSED WITH APPLICATION AS FILED ON FEBRUARY 26, 1999 (check all that apply)</i>						
<input checked="" type="checkbox"/> Specification No. of Pages 101		<input type="checkbox"/> Small Entity Statement				
<input type="checkbox"/> Drawing(s) No. of Sheets		<input type="checkbox"/> Other (specify)				
<i>METHOD OF PAYMENT (check one)</i>						
<input type="checkbox"/> A check or money order is enclosed to cover the Provisional filing fee						
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge filing fees and credit Deposit Account Number 11-0855						
<input type="checkbox"/> The Commissioner is hereby authorized to charge any deficiencies in the required filing fee or credit any payment to Deposit Account Number 11-0855.						
PROVISIONAL FILING FEE AMOUNT		\$ 150.00				

The invention was made by an agency of the United States Government or under contract with an agency of the United States Government:

<input checked="" type="checkbox"/> No.	
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are:	

Respectfully submitted,

SIGNATURE: Nora M. Tocups

Date: August 27, 1999

TYPED or PRINTED NAME Nora M. Tocups

Reg. No.: 35,717

PROVISIONAL APPLICATION FILING ONLY

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Applicants: Chewning, et al.
Application No. Not yet assigned Docket No.:
Filing Date August 27, 1999 36968 194346

PAPERS SUBMITTED:

1. Provisional Application for Patent Cover Sheet via Express Mailing (Label No. EL209595965US)
2. Provisional Application entitled **ADSL Network Management System** consisting of 101 pages specification

By: Nora M. Tocups, Reg. No. 35,717

Date: August 27, 1999

jc 11 U.S. PTO
60/151120
08/27/99
194346

The "Received" stamp of the Patent Office imprinted hereon will acknowledge receipt of:
 Applicants: Chewning, et al.

Application No. Not yet assigned Docket No.:
 Filing Date August 27, 1999 36968

PAPERS SUBMITTED:

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2. Provisional Application entitled ADSL Network Management System consisting of 101 pages specification

By: Nora M. Tocups, Reg. No. 35,717
 Date: August 27, 1999



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KILPATRICK STOCKTON LLP 1100 PEACHTREE ST NE STE 2800 ATLANTA GA 30309-4501 <i>Nora tocups</i> <i>Karen Stark</i> <i>177617</i>			ASSISTANT COMMISSIONER FOR PATENTS WASHINGTON DC 20231-9999 <i>Box Provisional Application</i>		

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ADSL Network Management System

User Guide

Issue 2.0

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1. Introduction

The Asymmetrical Digital Subscriber Line (ADSL) Network Management System (NMS) allows BellSouth (BST) customers the ability to establish high-speed Internet access through their Plain Old Telephone Service (POTS) line. For this access, customers may select an Internet Service Provider (ISP) or Network Service Provider (NSP) of their choice.

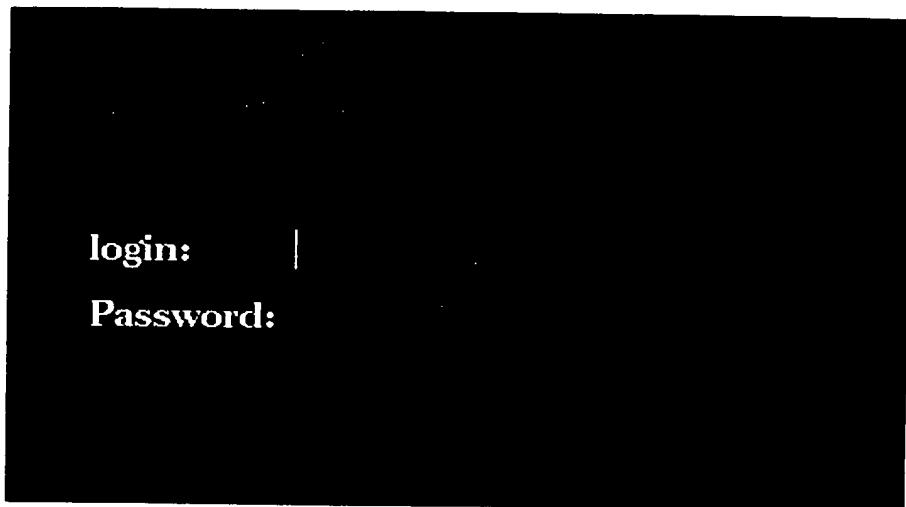
BST customers will add data to their POTS line (upgrade to an integrated data + voice service) and retain their present POTS number.

The majority of Service Orders (SOs) will be automatically provisioned for ADSL service. However, there will be circumstances when manual provisioning is needed. This User Guide helps Service Representatives manually provision an SO for NMS service. It also enables users to manage and maintain the NMS database, and diagnose problems and trace faults, in support of ADSL provisioning requests.

2. Bringing up NMS

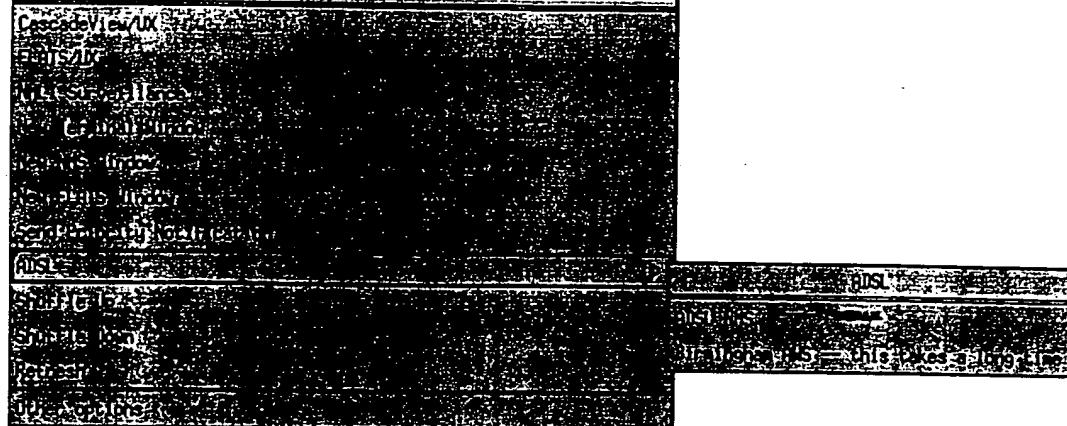
Most NMS functions are accomplished through the *BellSouthRegion* window, which is the main NMS window. To bring up this window, do the following:

1. Click on the MMT icon. An icon group appears. From this group, click on the *Cascade View* icon. The *Welcome to NavisCore-UX* window appears (shown below).

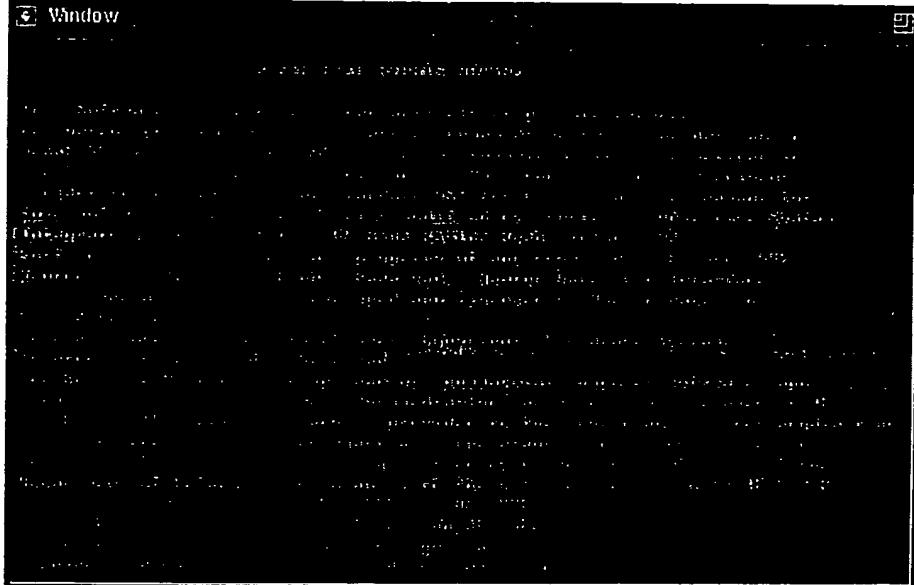


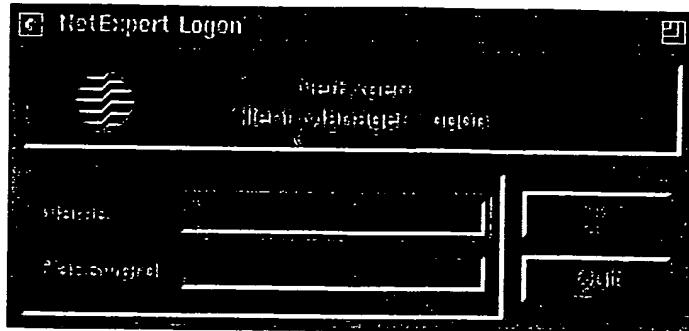
2. Enter your *cuid* and press <Enter>. Enter your password, and again press <Enter>. The *BST Advanced Networking Division* menu appears (as shown on the following page).

SOUTH ADVANCED NETWORKING DIVISION

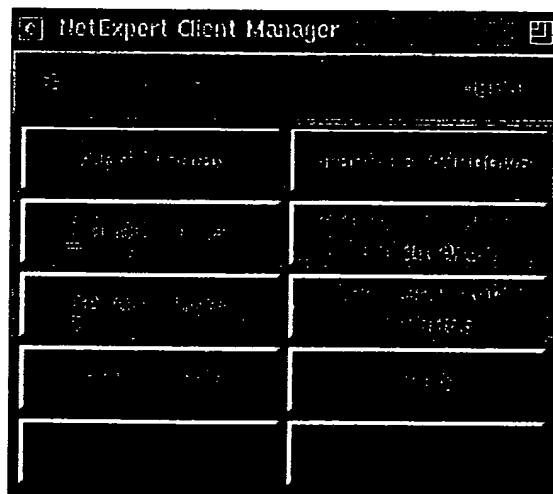


3. Click on *ADSL*, and then, from the drop-down menu, select *ADSL NMS*. This starts the NMS application.
4. Two windows appear; a Restricted Rights Notice (shown below, reduced in size), which shortly thereafter closes, and the *NetExpert Logon* window.

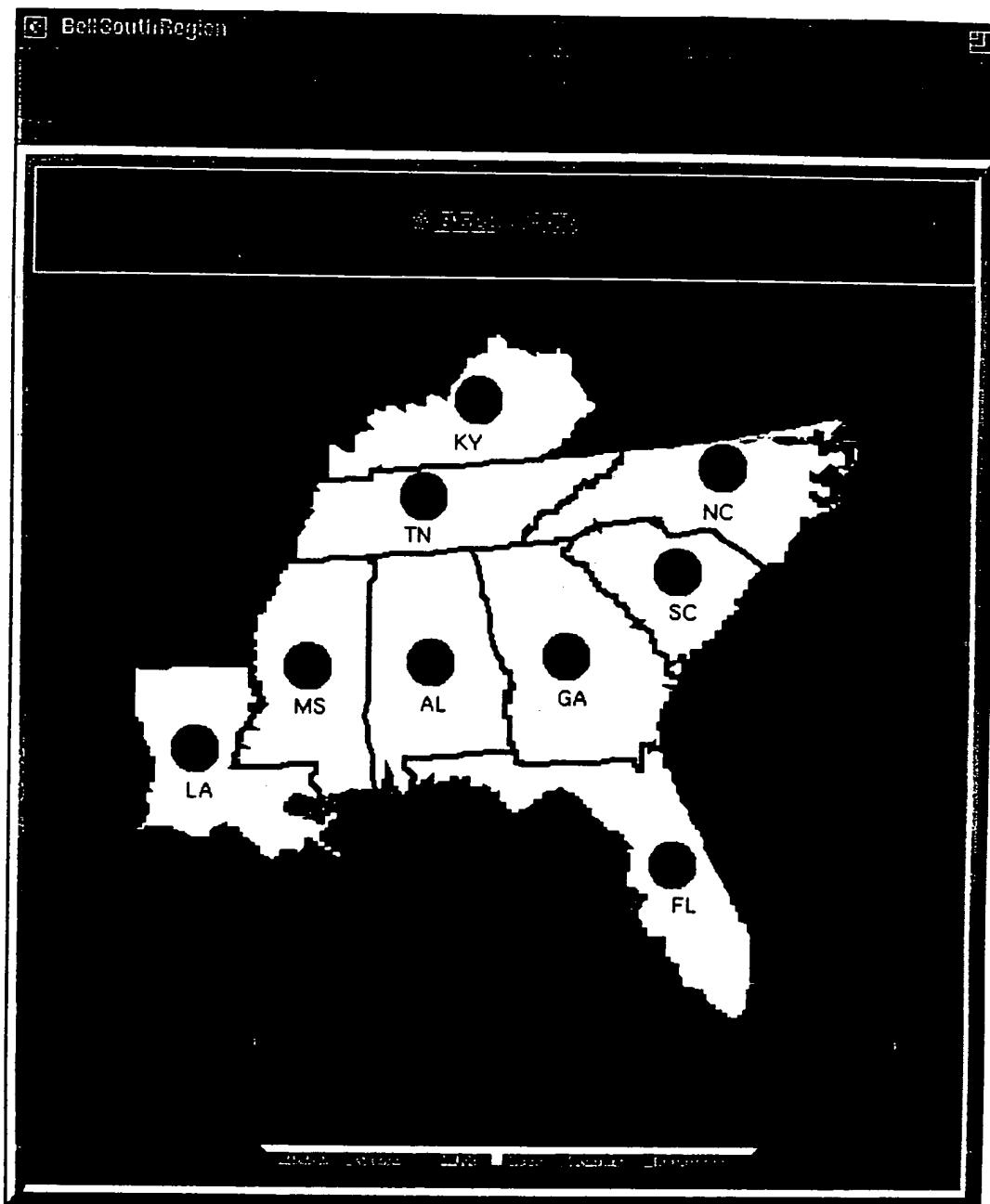




5. The *NetExpert Logon* window also displays. Enter your user name, press **<Tab>**, and enter your password. Click on *OK*. The *NetExpert Client Manager* window appears.



6. Click on Graphics Windows. The *BellSouthRegion* window appears (shown on the following page).



The colored dots within the states are alert indicators, and are explained in Chapter 5, *Fault Management*.

3. Network Creation in the NMS Database

Before provisioning can take place, various network elements must be created. This chapter discusses those elements, the sequence in which they must be created, and how to create them.

3.1 Network Creation Steps Overview

The following steps are general descriptions of the network creation process. The first eight steps are initial setup steps. They will not have to be repeated until growth in demand for ADSL service requires an increase in the network. However, NSP links will continue to be created as each NSP requests a link to the ATM switch for ADSL service. Each of these steps is defined in detail in the following pages.

1. Create (in the NMS database) a building location for each CO that will contain a CO DSLAM or ATM switch equipment.
2. Create a remote DSLAM or Mini-Ram associated with its remote site location in NMS.

Upon creation of the DSLAM/Mini-Ram, NMS gets the configuration of the newly created network element and populates its database with the racks, shelves, slots (cards), and associated card configurations.

3. Create the appropriate ATM switch(es) that support the ADSL subnetwork in NMS.
4. Create an NSP location for each NSP link in the NMS database.
5. Create the appropriate physical links between the NSP and ATM subnetwork.
6. Create the appropriate physical links between the CO DSLAM and the ATM subnetwork.
7. Create the appropriate physical links between the remote DSLAM and the ATM subnetwork.

8. Create a physical link between the Mini-Ram and connecting (sub-tending) CO DSLAM.

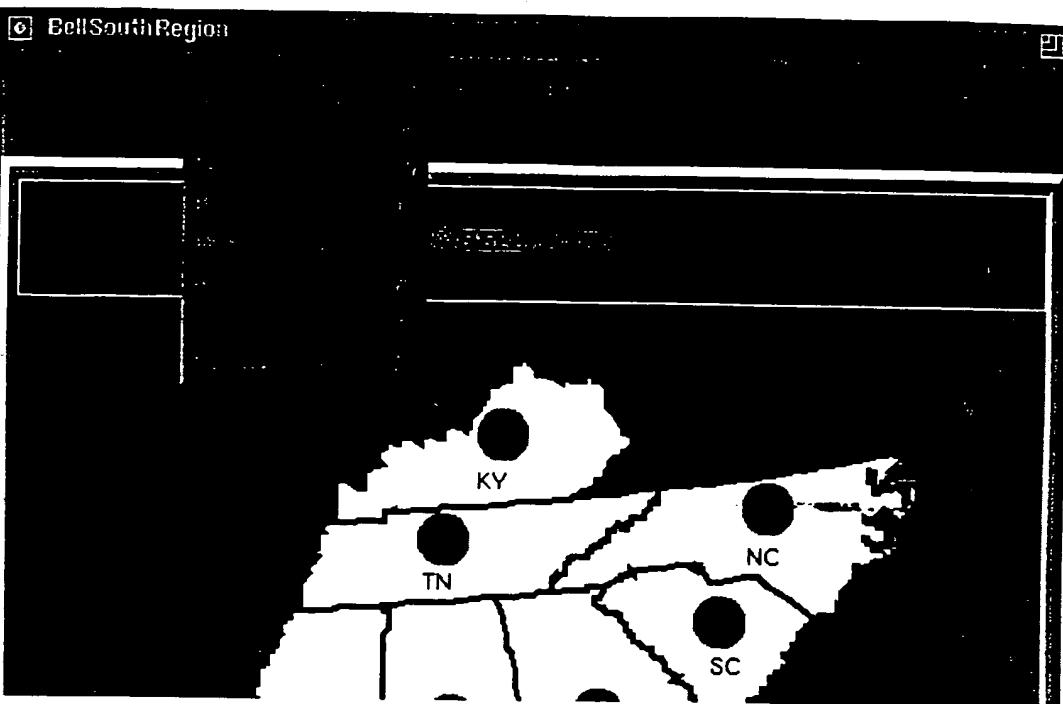
3.2 Creation Sequence of Interdependent Elements

Table 3-1 indicates the order in which interdependent elements may be created in the NMS database.

Table 3-1. Creation Sequence of Interdependent Elements

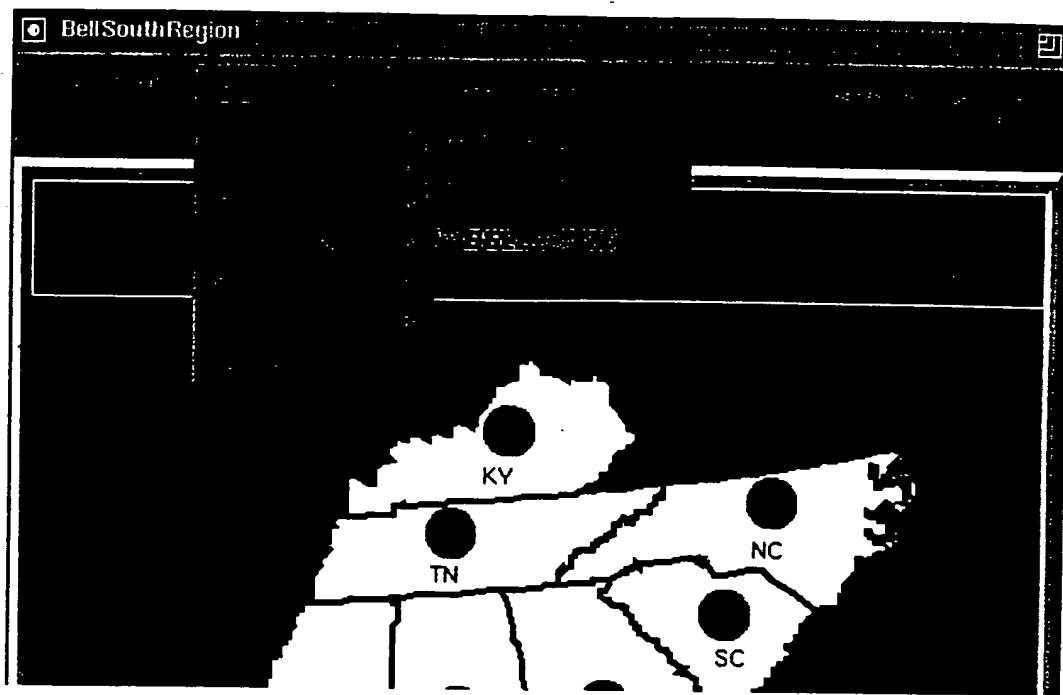
Creation Sequence of Interdependent Elements				
location (type Building Location, NSP; an ATM Subnetwork must already exist)				
(The AWS, although not a network creation element, must be created before the DSLAM.)				
Remote location (if appropriate)				
ATM switch	DSLAM	Mini-Ram (DSLAM to which it is sub-tended must pre-exist)		NSP location
DSLAM racks, shelves (automatically created in inventory)				
DSLAM LT card (automatically created in inventory)		slot/port (automatically created in inventory)		
Physical link: DS1, DS3, OC3, or OC12				

The Network Creation main menu choices are shown below.

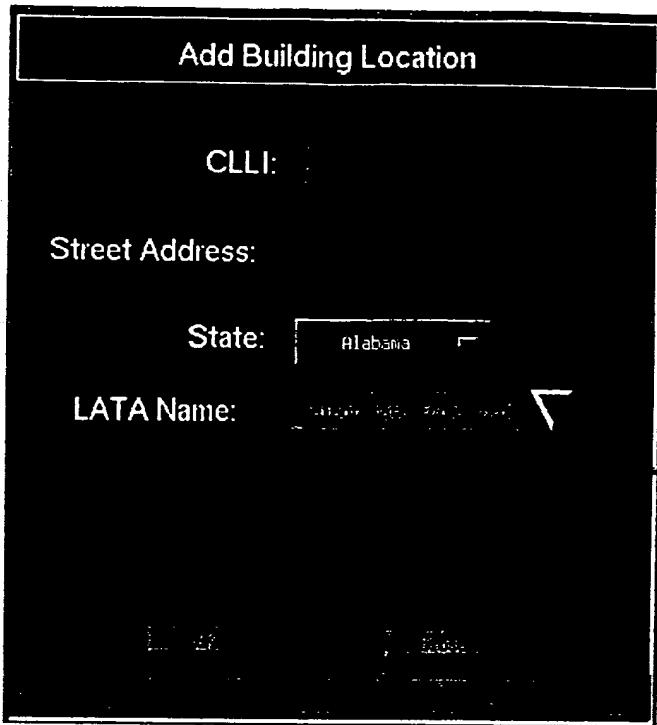


3.2.1 Creating a New Building Location

1. Bring up the *BellSouthRegion* window (as shown reduced below).



2. On the menu bar, click on NetworkCreation.
3. On the drop-down menu that appears, select Building Location, then Add Building Loc.... The *Add Building Location* window appears (shown on the following page).



4. Enter the following data into these fields:

Note: You must first highlight NMS fields before they will accept input.

- *CLLI:* An eight-character field for the building location CLLI code, composed of the following (entry is always uppercase):
 - city code (four characters, always uppercase entry)
 - state (two characters, always uppercase entry)
 - network site (two characters, always uppercase entry)
- *Street Address:* An optional field for the building location street address. (This field may be left blank, or used for comments.)
- *State:* Click on the option list button and select a state from the list (e.g., Georgia). This field defaults to *Alabama*.
- *LATA Name:* Click on the pick list triangle and select the appropriate LATA from the list.

Note: You must click again on pick list triangles to close a list.

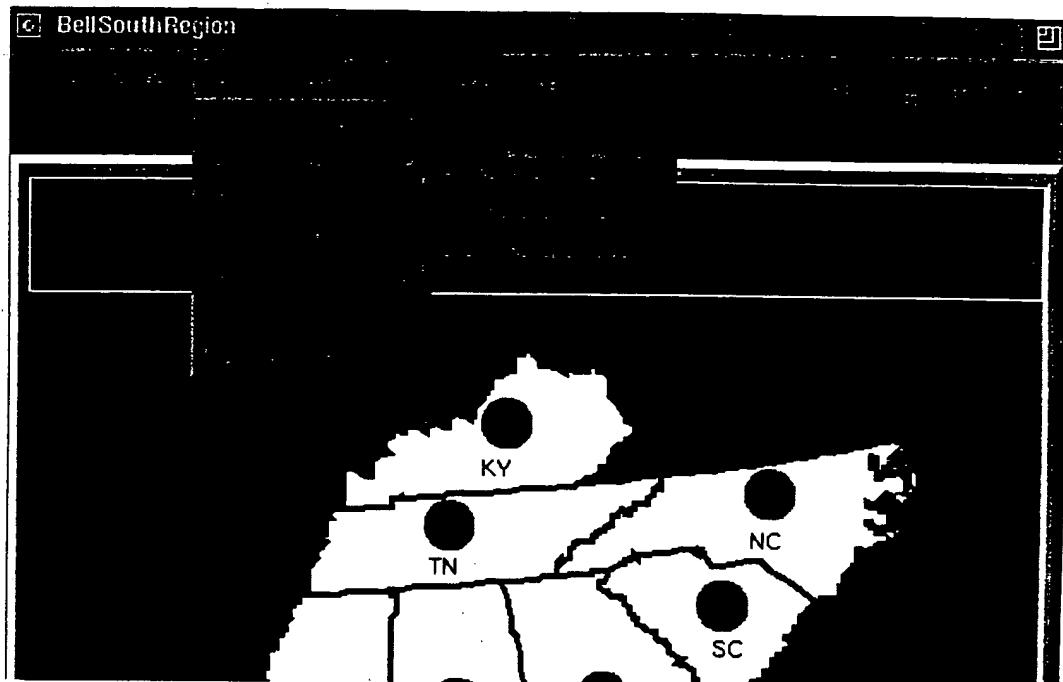
5. Click on *OK* (or, to cancel, click on *Close*). The new location is created and committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
6. Click on *Close* to close the window.

3.2.2 Creating and Editing a Remote Site

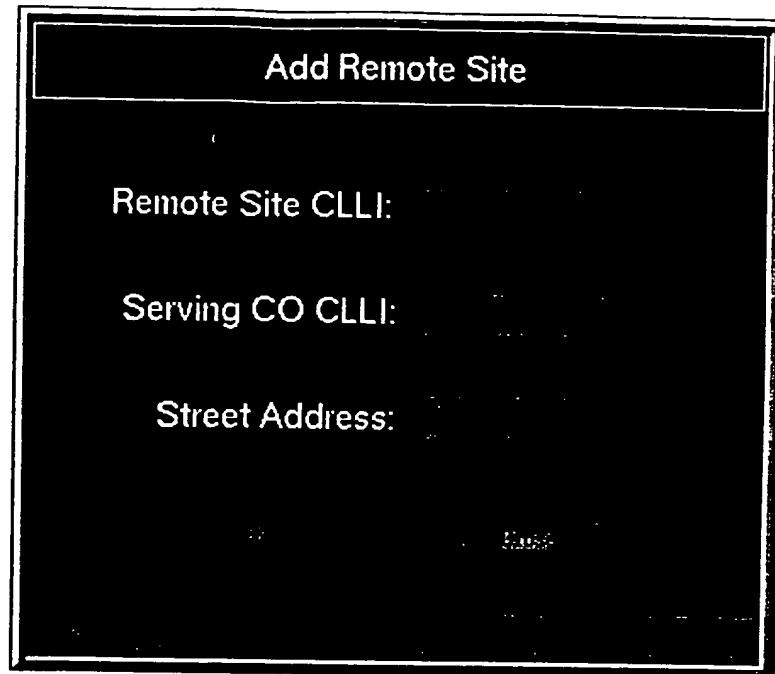
To create or edit a remote site, follow the steps shown below.

3.2.2.1 Creating a Remote Site

1. Bring up the *BellSouthRegion* window (as shown reduced below).



2. On the menu bar, click on *NetworkCreation*.
3. On the drop-down menu that appears, select *Remote Site*, then *Add Remote Site...* The *Add Remote Site* window appears (shown on the following page).



4. In the *Remote Site CLLI:* field, enter the 11-character CLLI of the remote site location.
5. In the *Serving CO CLLI:* field, enter the 8-character CLLI of the serving Central Office (must be the valid CO building location that terminates the physical link from the remote site).
6. In the *Street Address:* field, enter the remote site location street address.

Note: *The Street Address is a required field.*

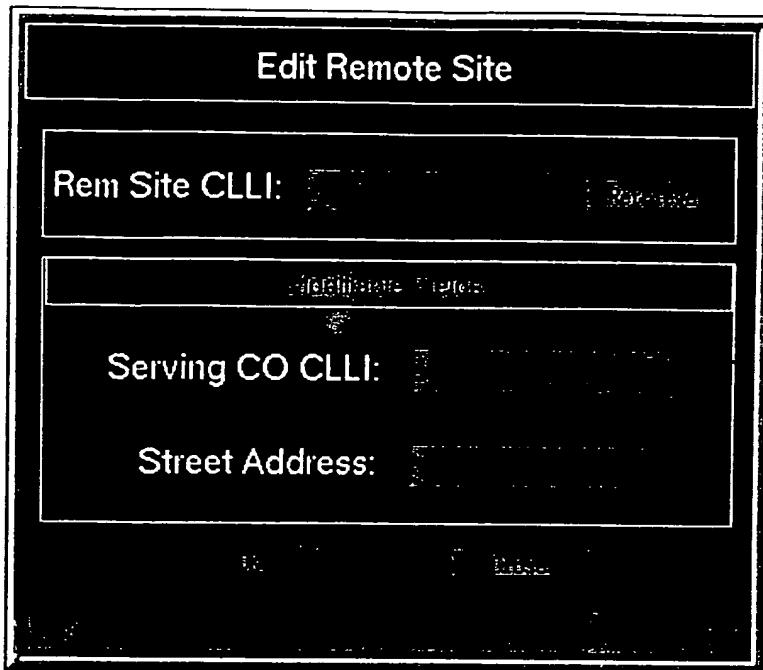
7. Click on *OK* (or, to cancel, click on *Close*). The new location is created and committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
8. Click on *Close* to close the window.

3.2.2.2 Editing a Remote Site

Follow these steps to edit a remote site.

1. Bring up the *BellSouthRegion* window (as already shown).
2. On the menu bar, click on *NetworkCreation*.

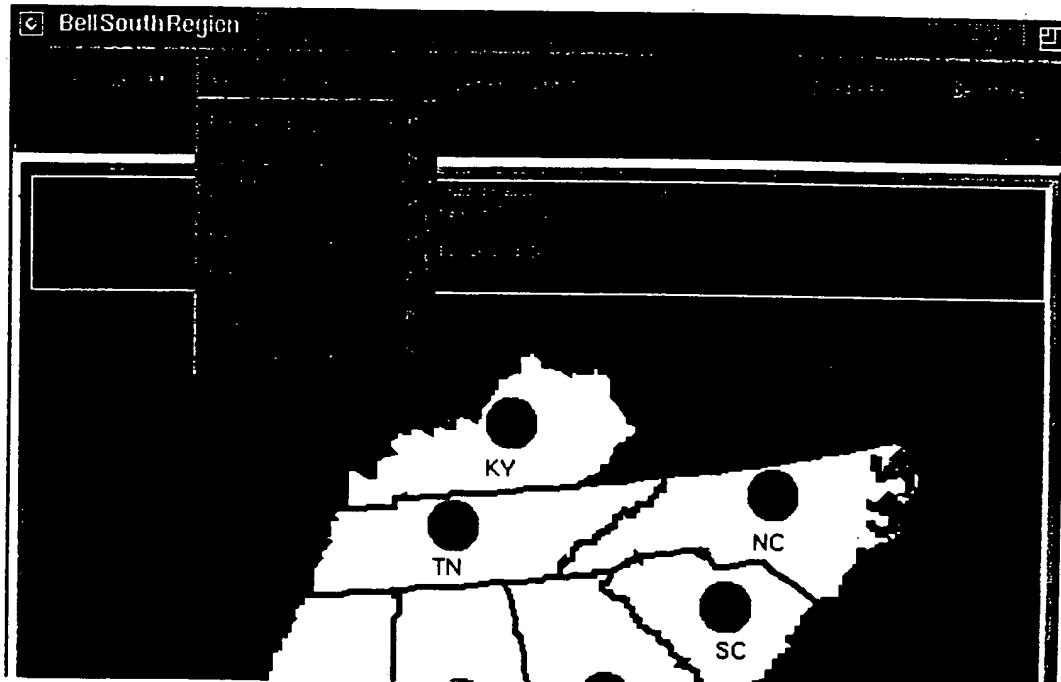
3. On the drop-down menu that appears, select *Remote Site*, then *Edit Remote Site...* The *Edit Remote Site* window appears (shown on the following page).



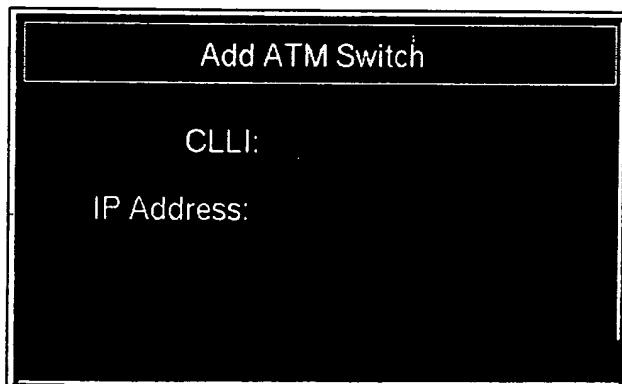
4. In the *Rem Site CLLI:* field, enter the 11-character remote site CLLI, and then click on *Retrieve*. The remaining two fields populate.
5. Edit the *Serving CO CLLI:* field, and/or the *Street Address:* field, as necessary, and click on *OK* (or on *Close*, to close the window without making any changes). The changes are committed to the database.
6. Click on *OK* (or, to cancel, click on *Close*). The new location is created and committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
7. Click on *Close* to close the window.

3.2.3 Creating an ATM Switch

1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *ATM*, then *Add ATM Switch...* (as shown reduced below).



3. The *Add ATM Switch* window appears:



4. In the *CLLI:* field, enter the CLLI (provided by DCSC management). The first eight characters must be the same as the building location.
5. In the *IP Address:* field, enter the IP address (provided by DCSC management). The format is: [0-255]. [0-255]. [0-255]. [0-255].
6. Click on *OK* (or, to cancel, click on *Close*). The data is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
7. Click on *Close* to close the window.

3.2.4 Creating and Editing a Central Office DSLAM

Once the DSLAM is created in the NMS inventory, NMS will automatically retrieve its configuration and populate the NMS with the racks, shelves, and slots associated with the DSLAM card configurations and logical connections.

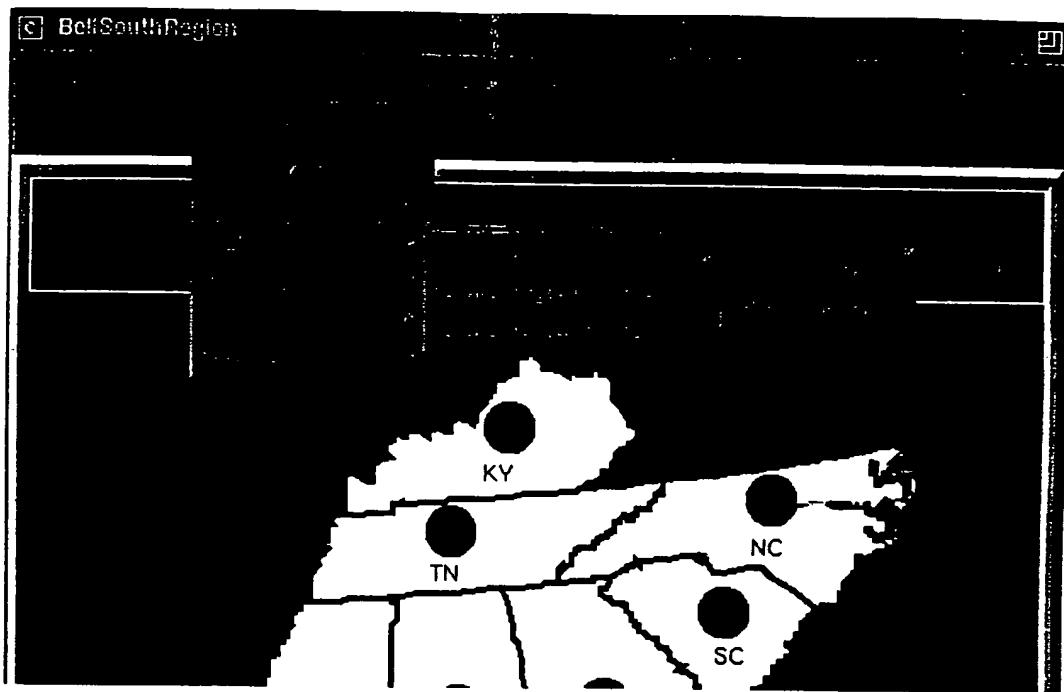
The following prerequisites exist:

- The new DSLAM is already physically installed in its Building Location.
- From its managing AWS, the physical DSLAM is initialized, timing is set, and any necessary initialization attributes are set on the newly installed DSLAM. The DSLAM must also be told its source ID (*SID*; this is a CLLI). These attributes relate to the creation of alarm conditions and resulting messages, and to the creating or modifying of profiles, to be applied to ATU-Cs, or to ATM PVCs in the physical DSLAM.
- In the NMS database, a valid managing AWS is associated with the DSLAM.
- In the NMS database, a valid building location has been created.

3.2.4.1 Creating a CO DSLAM

Procedure

1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *DSLAM/MiniRam*, then *CO DSLAM*, then *Add CO DSLAM...* (as shown reduced below).



3. The *Add Central Office DSLAM* window appears (as shown on the following page).

Add Central Office DSLAM

CLLI:

AWS:

Alcatel	COSMOS
1	
2	
3	
4	

4. In the *CLLI:* field, enter the 11-character DSLAM CLLI code. The first eight characters must be the same as the building location.
5. In the *AWS:* field, enter the AWS name for the previously created AWS.
6. In the *Rack Number Map* area, fill in the first field (and any others, as needed) with the corresponding COSMOS name.
7. Click on *OK* (or, to cancel, click on *Close*). The data is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
8. Click on *Close* to close the window. The system may now take up to five minutes to create this DSLAM.

When you create the equipment, NMS automatically addresses the network element and populates it with the:

- Rack and shelves (when appropriate)
- NT card
- LT (or LTT1) cards.

Also, when a DSLAM NT card is instantiated, an associated ATM physical port is created on the card.

When a DSLAM LT card is created, either four associated adslPorts, or four associated LTT1 ports, are created for the appropriate card.

The actions for each NT card retrieved in the physical DSLAM are:

- If the DSLAM NT card already exists in the database, no action is taken.
- If the DSLAM card does not exist, a new DSLAM NT card is instantiated and is associated with the appropriate slot. Also, an ATM physicalPort is instantiated as appropriate and associated with the dslamCard.

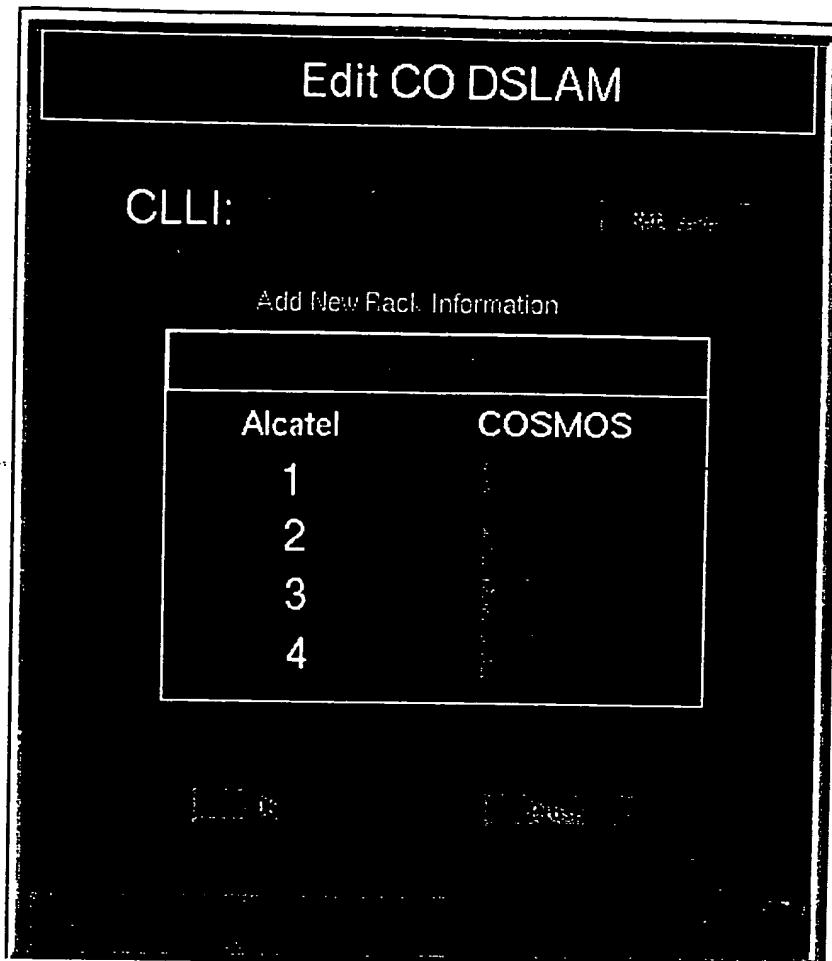
The actions for each LT card retrieved in the physical DSLAM are:

- If the DSLAM LT (or LTT1) card already exists in the NMS database, no action is taken.
- If the DSLAM card does not exist, a new DSLAM LT (or LTT1) card is created and is associated with the appropriate slot.
- Four adslPorts or four LTT1 ports are instantiated and associated with the DSLAM LT or LTT1 card.
- If within the range of LT cards retrieved, there is a DSLAM LT (or LTT1) card in the database but no corresponding LT card was retrieved from the physical DSLAM, no notification is sent to the user by NMS. No automatic deletion occurs in NMS.

3.2.4.2 Editing a Central Office DSLAM

When additional ADSL ports are needed, the CO DSLAM will need to be populated by more racks for these ports. The CO DSLAM now needs to be edited to add an additional rack.

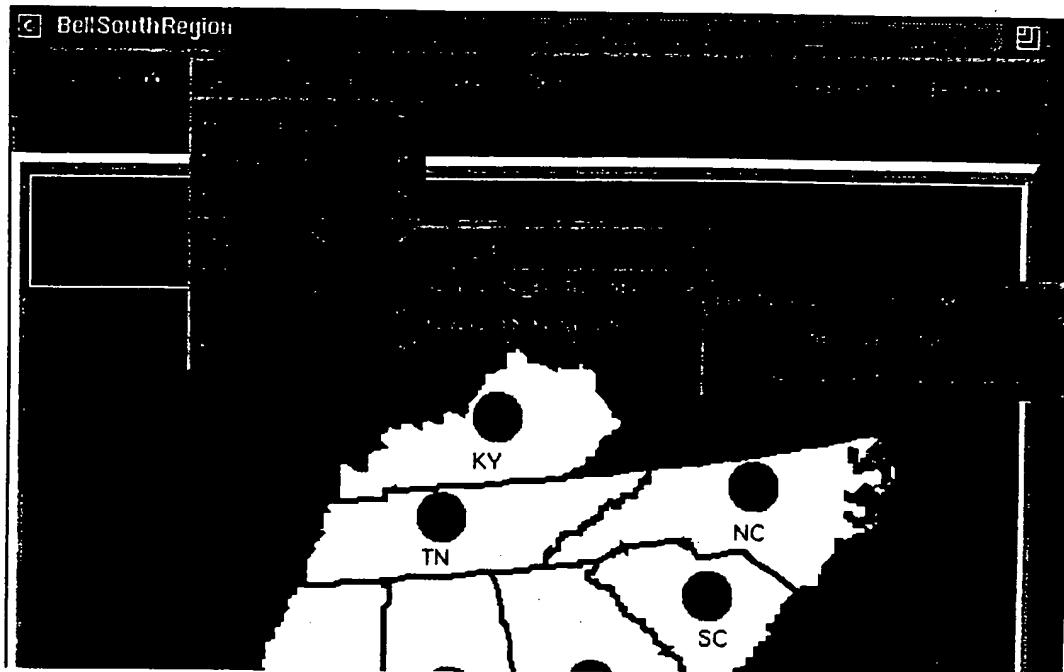
1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *DSLAM*, then *CO DSLAM*, then *Edit CO DSLAM*....
3. The *Edit CO DSLAM* window appears, as shown.



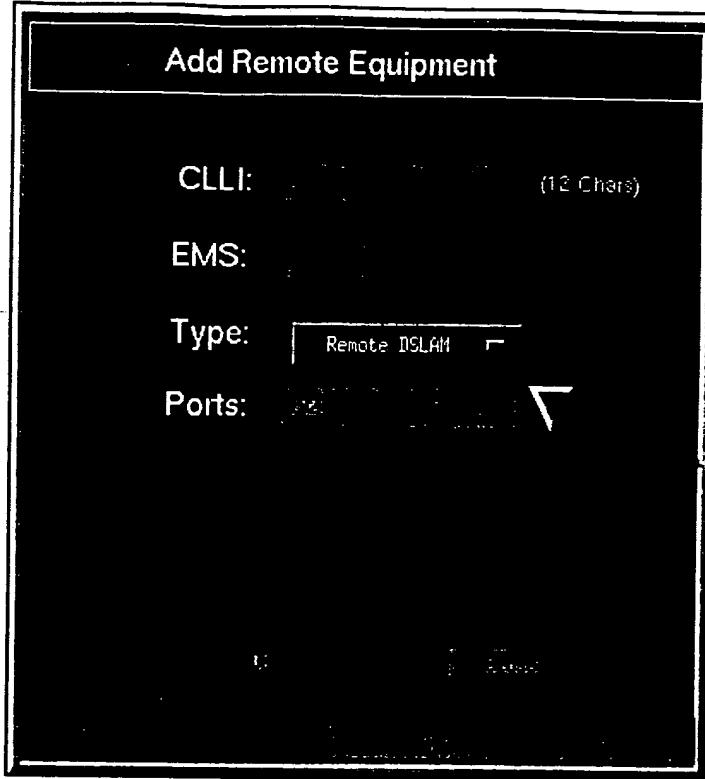
4. In the *CLLI:* field, enter the DSLAM CLLI and then click on the *Retrieve* command button. The fields below populate with the associated COSMOS names.
5. As needed, you may modify the Rack Number Map to update the COSMOS name of the racks or add or delete COSMOS racks when they are installed for the same DSLAM.
6. Click on *OK* (or, to cancel, click on *Close*). The data is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
7. Click on *Close* to close the window.

3.2.5 Creating a Remote DSLAM/Mini-Ram

1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *DSLAM/MiniRam*, then *Remote DSLAM/MiniRam*, then *Add Remote DSLAM/MiniRam...* (as shown reduced below).



3. The *Add Remote Equipment* window appears (as shown on the following page).



4. In the *CLLI:* field, enter the DSLAM or Mini-Ram 11-character CLLI, plus the suffix.
The remote equipment CLLI will always contain 12 characters. This is the 11-character CLLI and an alpha suffix to indicate whether it is the first network element at this remote site or an additional one. For example, ATLAGAU0001A. The first 11 characters must be the same as the remote site location. All remote equipment at the same remote site location will have the same 11-character CLLI.
5. In the *EMS:* field, enter the EMS name.
6. Click the option button under *Type:*, select either *Remote DSLAM* or *Mini-Ram*.
7. In the *Ports:* field, click the pick list triangle, and select the appropriate number of ports, according the selected equipment type.
8. Click on *OK* (or, to cancel, click on *Close*). The data is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
9. Click on *Close* to close the window.

When you create the equipment, NMS automatically addresses the network element to retrieve the configuration and populate NMS inventory with the:

- Rack and shelves (when appropriate)
- NT card (Alcatel Mini-Ram will have four NTT1 ports)
- LT cards.

Also, when a DSLAM NT card is instantiated, an associated ATM physical port is created on the card (this does not apply to a Mini-Ram).

When a DSLAM/Mini-Ram LT card is created, four associated adsIPorts are created on the card.

The actions for each NT card retrieved in the physical DSLAM are:

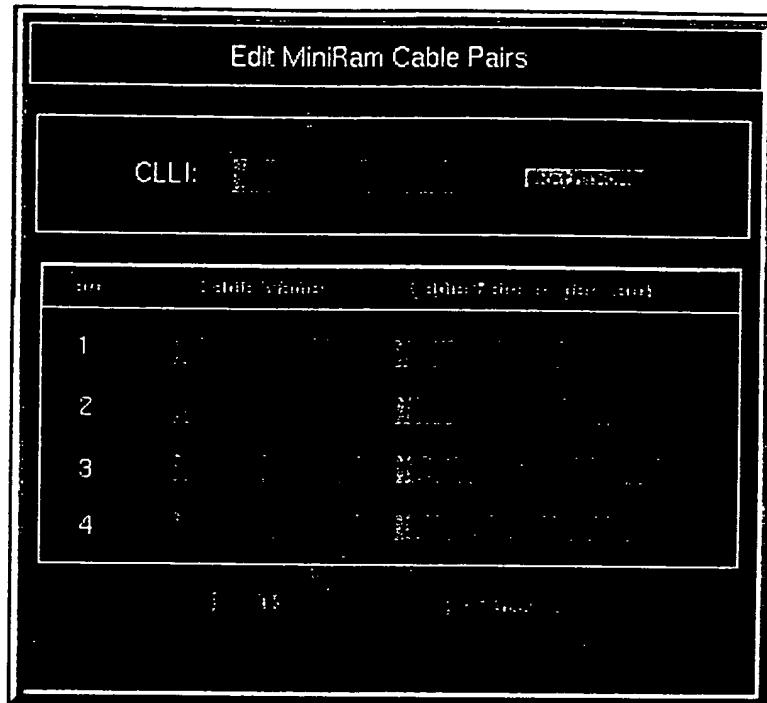
- If the DSLAM NT card already exists in the database, no action is taken.
- If the DSLAM card does not exist, a new DSLAM NT card is instantiated and is associated with the appropriate slot.

The actions for each LT card retrieved in the physical DSLAM are:

- If the DSLAM LT card already exists in the NMS database, no action is taken.
- If the DSLAM card does not exist, a new DSLAM LT card is created and is associated with the appropriate slot.
- Four adsIPorts are instantiated and associated with the DSLAM LT card.
- If within the range of LT cards retrieved, there is a DSLAM LT card in the database but no corresponding LT card was retrieved from the physical DSLAM, no notification is sent to the user by NMS. No automatic deletion occurs in NMS.

3.2.6 Editing Mini-Ram Cable Pairs

1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *DSLAM/MiniRam*, then *Remote DSLAM/MiniRam*, then *Edit MiniRam Cable/Pairs....*
3. The *Edit MiniRam Cable Pairs* window appears, as shown below.



4. Enter the 11-character CLLI and its alpha suffix.

5. Input the cable name and cable pairs.

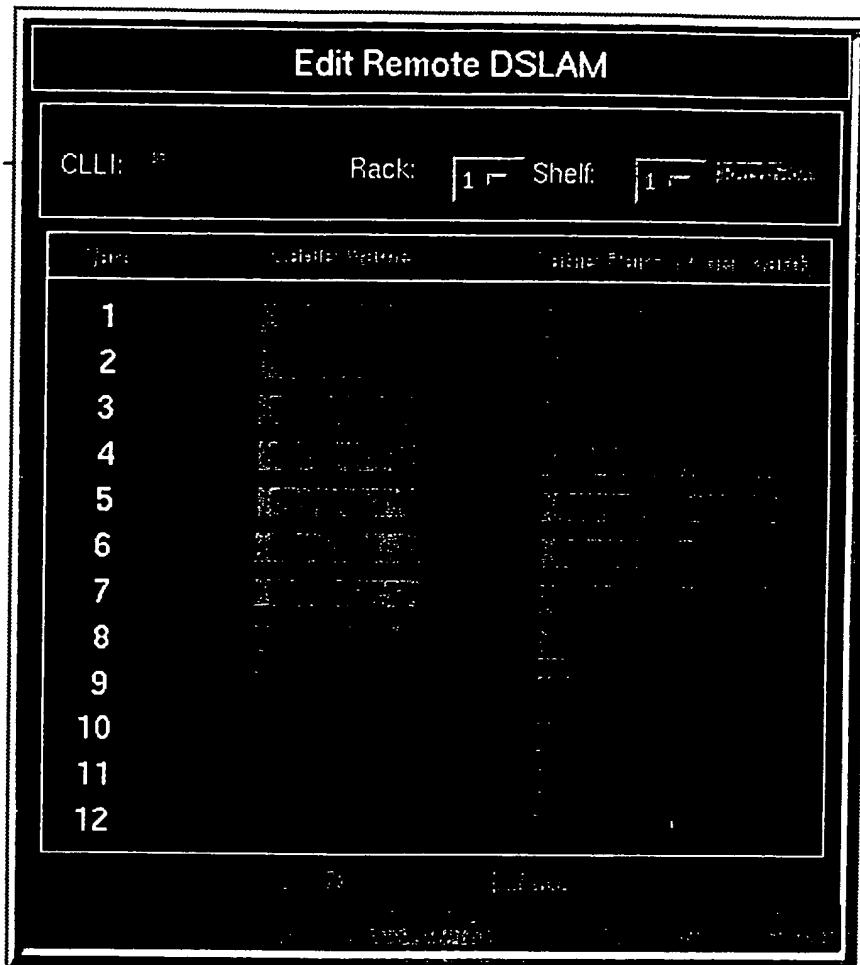
Note: *The EWO form is used to populate this screen.*

6. Click on *OK* (or, to cancel, click on *Close*). The data is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.

7. Click on *Close* to close the window.

3.2.7 Editing Remote DSLAM Cable/Pairs

1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *DSLAM/MiniRam*, then *Remote DSLAM/MiniRam*, then *Edit Remote DSLAM Cable/Pairs....*
3. The *Edit Remote DSLAM* window appears, as shown below.



exit

4. In the *CLLI:* field, enter the 11-character CLLI and its suffix.
5. From the *Rack:* option list, select a rack (default is *one*).
6. From the *Shelf:* option list, select a shelf (default is *one*).

7. Click on the *Retrieve* command button.
8. Make the edits as needed. Add the LFACS cable name and the cable pair associated with the LT ports on the card. Currently each card can only support one cable - so all pairs for a card belong to a single cable. The syntax typically is 2-5 or 2,3,4,5 or 2-3,7-8.

Note: *The EWO form is used to populate this screen.*

9. Click on *OK* (or, to cancel, click on *Close*). The data is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
10. Click on *Close* to close the window.

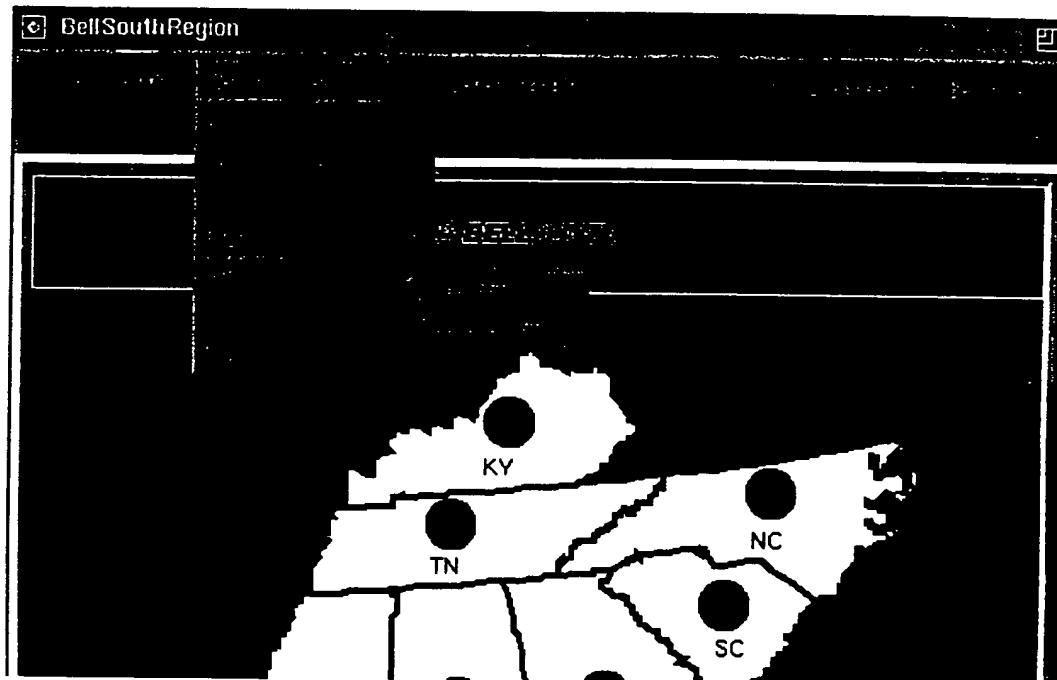
3.2.8 Creating a New NSP or ISP Location

The following elements must already exist:

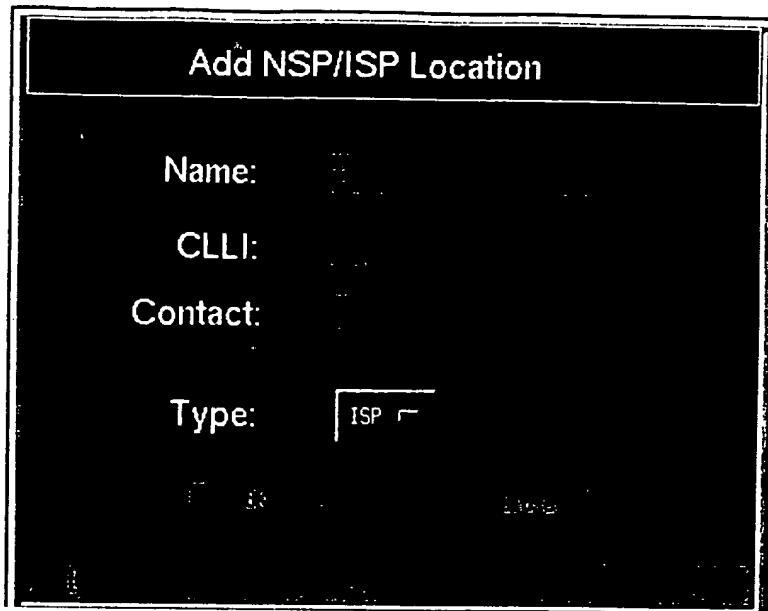
- The special service circuit assigned to the physical link between the NSP/ISP and the ATM subnetwork is designed in TIRKS and the circuit is physically installed.
- A building location must exist in NMS.

Procedure

1. On the BellSouthRegion window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select NSP, then *Add NSP...* (as shown reduced below).



3. The *Add NSP/ISP Location* window appears, as shown on the following page.



4. On the *Name:* field, enter the NSP/ISP name. This entry must be six characters or less.
5. On the *CLLI:* field, enter the eleven-character CLLI of the NSP. The first eight characters must be the same as the building location.
6. On the *Contact:* field, enter the name of an NSP/ISP contact person (if unknown, simply leave blank; this is an optional field).
7. On the *Type:* field, click on the option button to select either *NSP* or *ISP*.
8. Click on *OK* (or, to cancel, click on *Close*). The data is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
9. Click on *Close* to close the window.

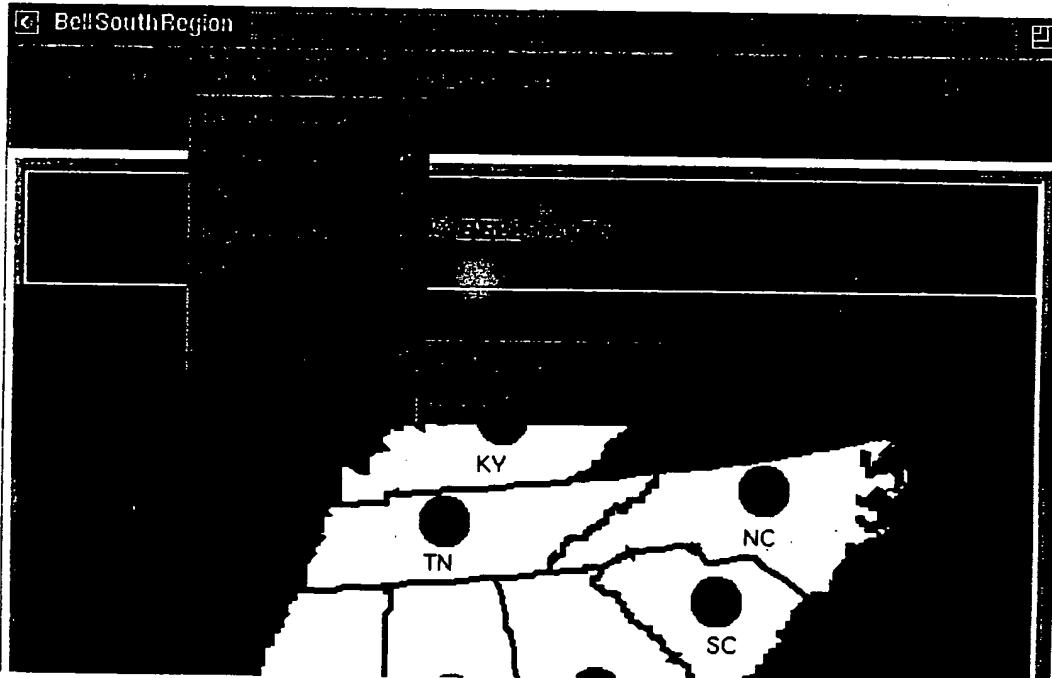
3.2.9 Creating a Physical Link

The following prerequisites exist:

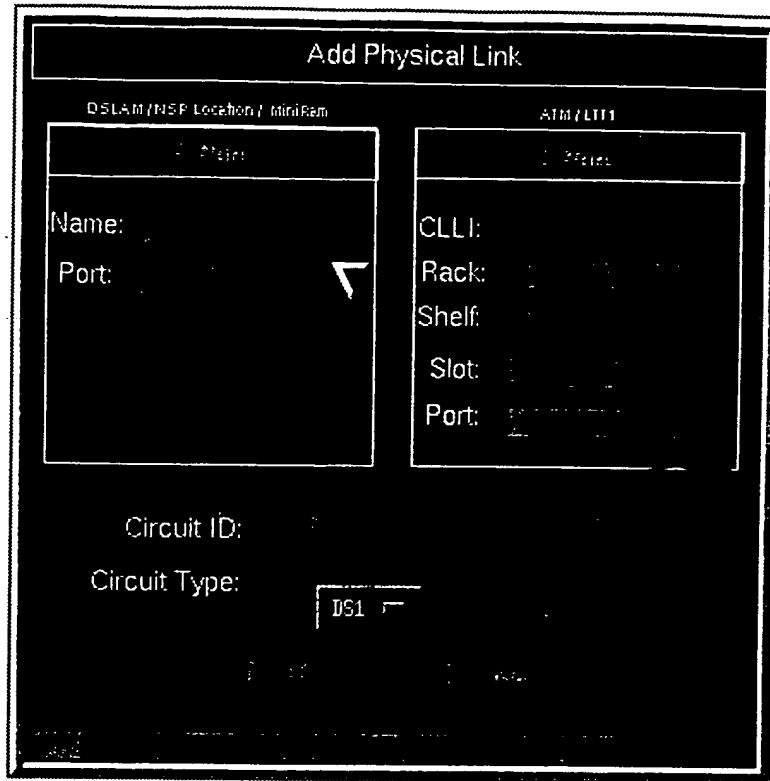
A physical link must have first been provisioned and installed in the physical network. The NMS user must determine (from an EWO or the TIRKS Word document, whichever is appropriate) the circuit ID of the physical link and the two matching physical ports to connect the physical link. In the case of an NSP location, the NSP physical port is unknown. The NSP port is identified as a POI or POP in the TIRKS Word document, and is not inventoried in the NMS database.

Procedure

1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *Physical Link*, then *Add Physical Link...* (as shown below).



3. The *Add Physical Link* window appears (shown on the following page).



4. In the *A Port* area of the window, enter the 12-character CLLI code for the network element into the *CLLI:* field. The A Port can be a DSLAM or an NSP location. For the DSLAM, we can type the 12-character CLLI, but for the NSP location we need to type the entire name in the format **NSPName.NSPLocation** (e.g., AOL.STMNGAMNAL1). Note that when we type in the NSP location name, the port will automatically have POP in it.
5. Select the port number in the *Port:* field via the pick list.
6. In the *Z Port* area of the window, enter the ATM switch CLLI, or the DSLAM CLLI, into the *CLLI:* field.
7. If the CLLI is a DSLAM CLLI, enter the rack, shelf, slot, and port. However, if the CLLI is an ATM switch CLLI, then enter only the slot and port.
8. Enter the circuit ID into the *Circuit ID:* field.
9. For *Circuit Type:* click on the option button to select the circuit type. This assignment must match that of the actual circuit type.

10. Click on *OK* (or, to cancel, click on *Close*). The data is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.

11. Click on *Close* to close the window.

The following is an example of a Special Service Hi-Cap Circuit ID for physical links between an ATM switch and an NSP, which is requested by the NSP customer. The example shows the Special Service circuit ID that will be used in the Circuit ID field:

Example: 10HCFJ123456_SC (defined in the table below)

1-2 Company Prefix	3-4 Defines (initial ATA or inter-ATA)	5-6 (initial ATA or inter-ATA)	7-8 network type)	9-12 (Serial #)	13-14 (Company code or BS region code)
-10	HC = DS1 HF = DS3 OB = OC3 OD = OC12	F	J = ATM	123456	SC = BellSouth region

The physical link is created if the physical ports for both locations match (are of the same type). Valid combinations are:

- Port type on DSLAM card<-->Port type on ATM subnetwork
- Port type on Mini-Ram card<-->Port type on CO DSLAM
- location type NSP<-->Port on ATM subnetwork

The following is an example of the Message Trunk Access Code (TGAC) for physical links between an ATM switch and a CO DSLAM. The TGAC will be used in NMS, rather than the lengthy message trunk circuit ID:

AF150950

The NMS user, using the Word document, will need to derive the port type from the underlying facility type. The facility type will be one of: T1 (DS1), T3 (DS3), OC3, OC12.

A new circuit ID will be used for physical links between a remote DSLAM and an ATM switch, and a Mini-Ram and a CO DSLAM. This information will be provided on the EWO from an LFACS facility assignment.

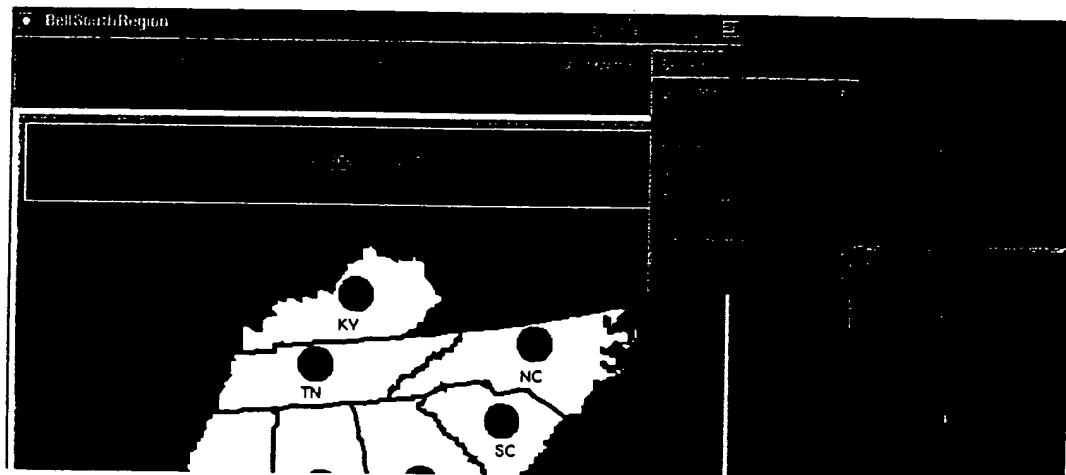
The Facility Type can be used to identify the port type.

4. PVC Provisioning

When a SO fails during the provisioning process, the PVC provisioning must be manually done in NMS. The provisioning information that is entered into NMS is derived from external sources. Please refer to your supporting documentation for the data you will input from the SO.

4.1 Creating PVC Cross-connection

1. On the *BellSouthRegion* window menu bar, click on Service.
2. On the drop-down menu that appears, select *ATUR-NSP*, then *Add ATUR_NSP...* (as shown below).



3. The *PVC Provisioning – Direct Connect Vcc* window displays (as shown on the following page).

PVC Provisioning – Vcc Connect

Subscriber ID:

Subscriber Name:

Optional Atur VPI and VCI

Atur VPI:

Atur VCI:

DSLAM COSMOS/LFACS Port

CO/Remote:

COSMOS/LFACS Port Name:

Exchange Key/CLLI:

NSP

NSP Circuit ID:

NSP VPI:

NSP VCI:

USOC:

4. In the *Subscriber ID*: field, enter the telephone number.
5. In the *Subscriber Name*: field, enter the subscriber name.
6. In the *Atur VPI*: field, enter a VPI of a value between 0-15. (If this field is left blank, it will assume the default value of 8).
7. In the *Atur VCI*: field, enter a VCI value between 32-1023. (If this field is left blank, it will assume the default value of 35).

8. For *CO/Remote*: click on the option button and select either *COSMOS* or *LFACS*.
 - a) If you select *COSMOS*, then:

In the *COSMOS/LFACS Port Name*: field, enter the COSMOS port name from the SO.

In the *Exchange Key/CLLI*: field, enter the exchange key (the NPANXX).
 - b) If you select *LFACS*, then:

In the *COSMOS/LFACS Port Name*: field, enter the LFACS port name from the SO (the Alcatel equivalent of the ADSL port).

In the *Exchange Key/CLLI*: field, enter the remote DSLAM or Mini-Ram CLLI.
9. In the *NSP Circuit ID*: field, enter the NSP circuit ID.
10. In the *NSP VPI*: field, enter the NSP VPI (format: 0-15).
11. In the *NSP VCI*: field, enter the NSP VCI (format: 33-1032).
12. For *USOC*: click on the option button and select a USOC from the list. This is the traffic profile that you are using.
13. Click on *OK* (or, to cancel, click on *Close*). The provisioning is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
14. Click on *Close* to close the window.

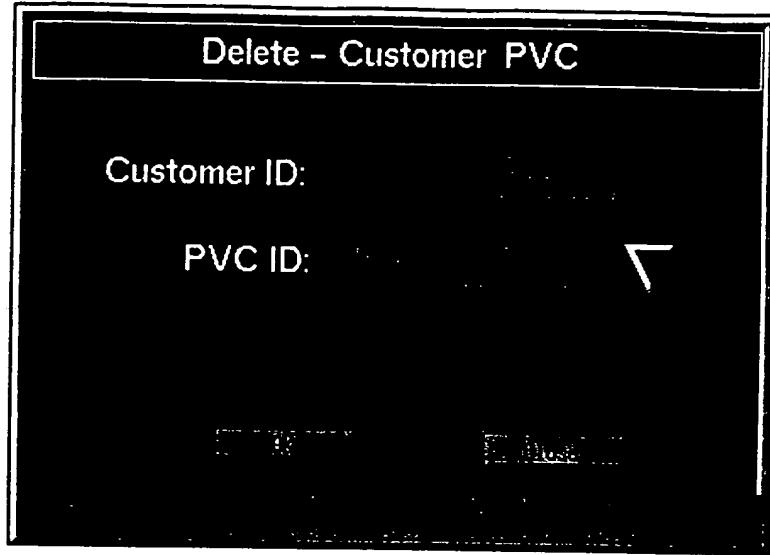
The port assignment for the PVC determines whether the customer PVC created is a direct PVC, or a subtending PVC going through the Mini-Ram.

4.2 Deleting PVC Cross-connection

1. On the *BellSouthRegion* window menu bar, click on *Service*.
2. On the drop-down menu that appears, select *ATUR-NSP*, then *Delete Customer PVC...* (as shown reduced below).



3. The *Delete - Customer PVC* window displays (as shown on the following page).



4. In the *Customer ID:* field, enter the customer telephone number.
5. In the *PVC ID:* field, select the PVC ID via the pick list.

Note: *A single customer may have many PVCs.*

6. Click on *OK* (or, to cancel, click on *Close*). The delete is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
7. Click on *Close* to close the window.

5. Fault Management

Problems will occasionally arise with ADSL equipment. NMS has alert indicators to inform the systems users that such problems have occurred.

5.1 Alert Indicators

On the *BellSouthRegion* window, the color of the dots represent the equipment status of each state's ADSL equipment. Primarily, this consists of DSLAMs, ATM switches, and communication ports.

Red indicates a critical alert.

Orange indicates a major alert.

Yellow indicates a minor alert.

Green indicates normal status.

5.2 Researching ADSL Equipment and Alerts

Researching alerts can involve one or both of two actions. One is to use the *Alert Display* option from the *NetExpert Client Manager* window. The other is the drill-down functionality of the alert status dots on the main *BellSouthRegion* screen. Both methods are described.

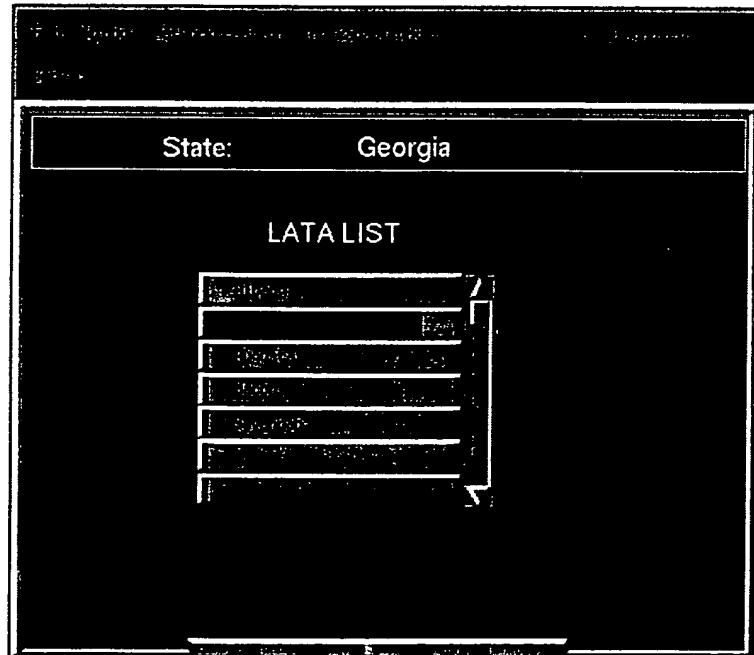
5.2.1 Alert Indicators Drill-down

The colored dots on the *BellSouthRegion* window provide links to drill-down windows. These view-only windows provide two functions:

- They allow a user to research and identify the equipment in each state, LATA, building location, and ATM switch.
- During an alert condition, these windows allow the user to search for, and identify, the source of the alert.

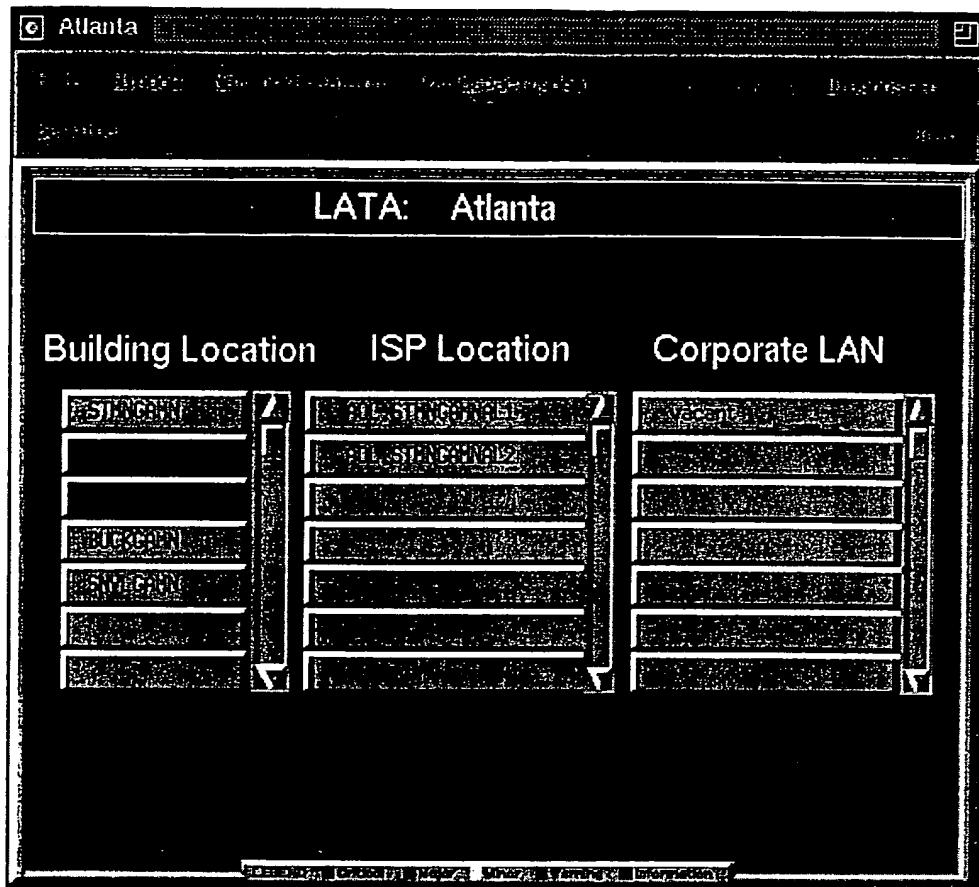
Follow the steps below to access and understand these windows.

1. Select (double-click on) the colored dot within the state whose equipment you want to research. For example, select GA, and double-click on its colored dot. The following window appears:



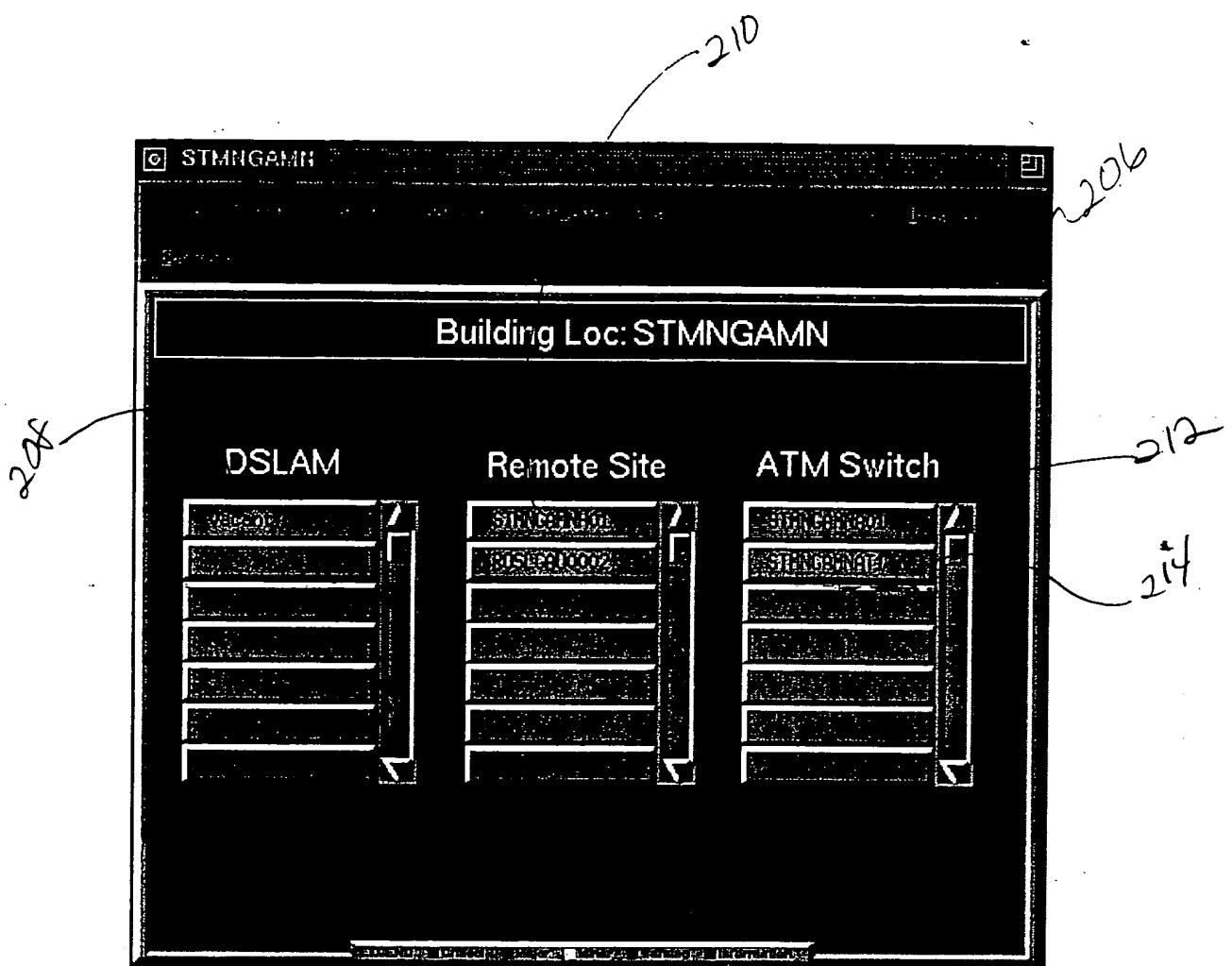
2. Here we show the [State] window, with a red alarm showing. To drill-down to the next level of detail, double-click on the city marked in red.

3. The *LATA: [City]* window appears (shown below).

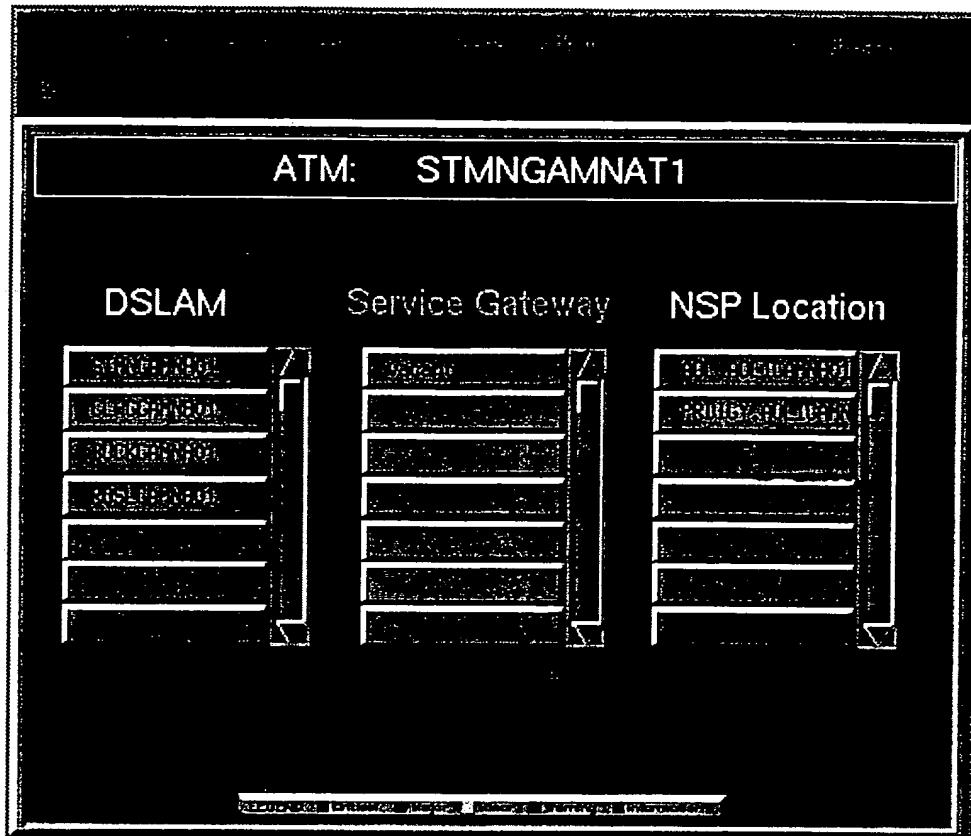


4. To drill-down to the next level of detail, double-click on one of the three columns.

- As an example, first double-click on the building location that is marked in red (in this case, there are two: *RIVVGAMN* and *ROSLGAMN*; but for example purposes, we will select *STMNGAMN*). If you double-click on *STMNGAMN*, the *Building Loc: STMNGAMN* window appears (as shown on the following page).

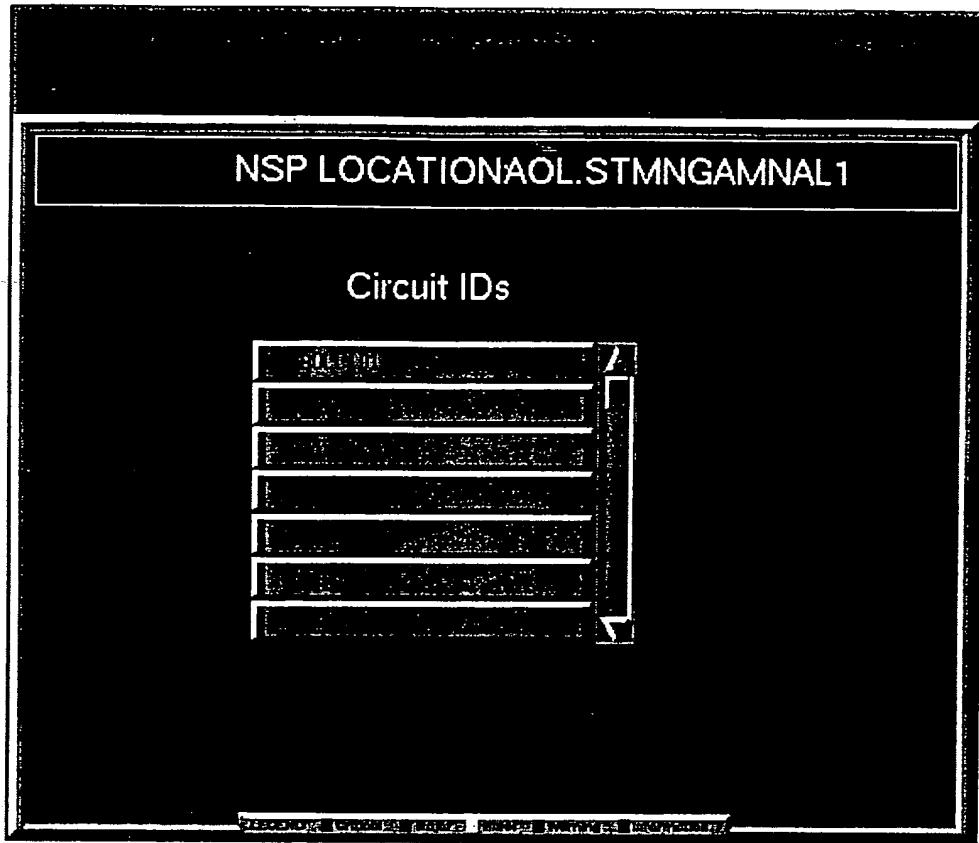


- b) This window displays the building location for the DSLAM with the alarm condition.
- c) If you wish to see the equipment that has a physical connection to this ATM switch, double-click on the ATM switch for this DSLAM (STMNGAMNATI). The *ATM* window appears (shown on the following page).



d) Click on the NSP location to view it. This will display the names of the circuits from the NSP to an ATM switch. The *NSP Location* window appears (as shown on the following page).

Note: *Currently, Service Gateway is not used.*

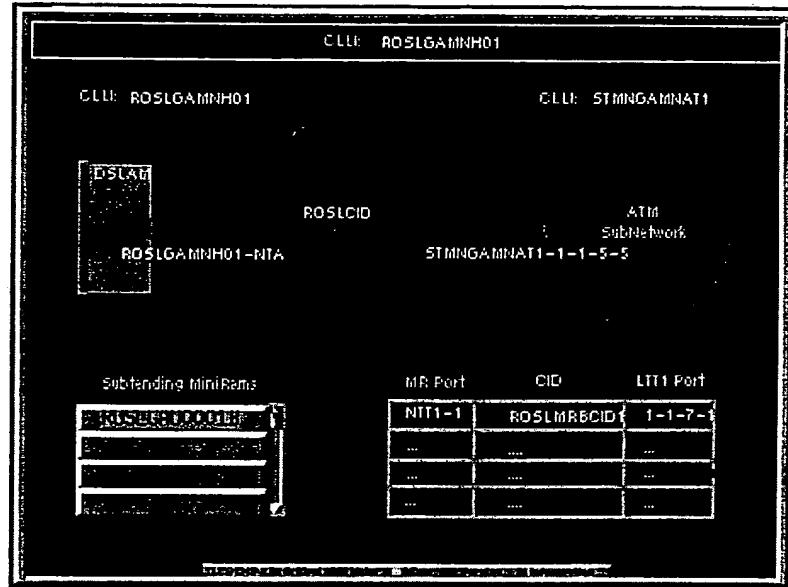


This window identifies the circuit IDs.

Note: *The NSP circuit ID is one of the items listed on the SO. If an SO fails validation because of an incorrectly identified NSP circuit ID, then you could use this screen to compare this circuit ID with the one on the SO, so that a mismatch can be corrected. Incorrect SO data entry usually causes the error.*

5.2.1.1 Viewing the DSLAM-ATM Switch Connectivity

1. Return to the *LATA: Atlanta* window, select the *ROSLGAMN* building location. The *Building Loc:ROSLGAMN* window appears.
2. In the first column, double-click on a DSLAM. The *CLLI* window for that DSLAM appears (as shown on the following page):



This window describes the connectivity of the DSLAM to the ATM switch and all the Mini-Rams that are subtending to that DSLAM. The lower, left-hand list displays a list of all subtending Mini-Rams connected to that DSLAM. When a particular Mini-Ram is selected in this list, the list in the lower-right corner displays the physical link IDs that are used to connect the selected Mini-Ram to this DSLAM. To obtain a refreshed view of the physical links for any listed DSLAM, click on that DSLAM (in the list on the lower left). The refreshed list of the physical links for that DSLAM displays (in the list on the lower right).

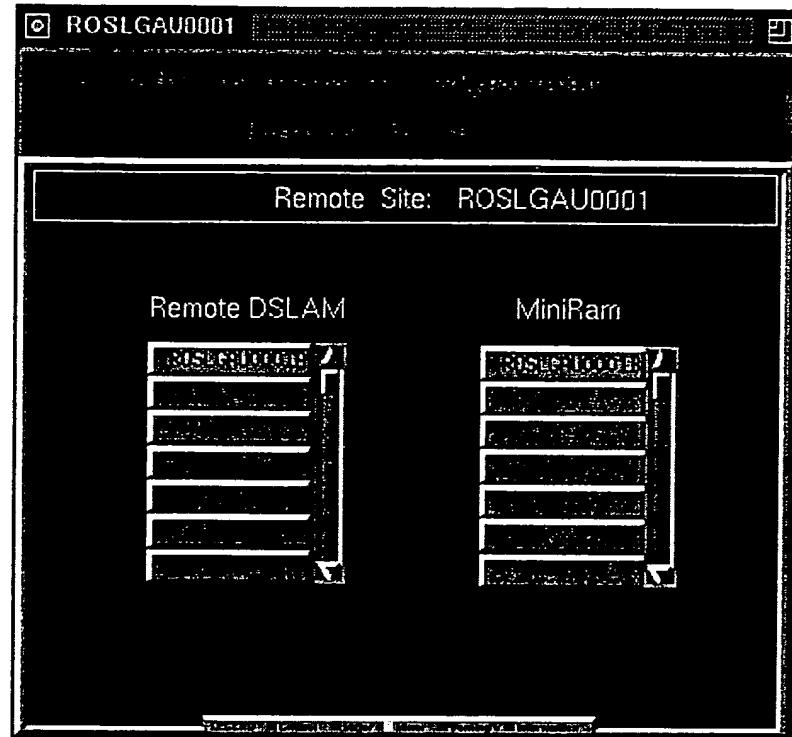
To close this window, click your right-hand mouse button; from the menu list that appears, click on *Close Window*.

To individually close each remaining window, position your cursor on the window you wish to close, right-click your mouse, and select *Close Window* from the drop-down menu that displays.

To collectively close all sequences of the drill-down windows, close the parent (first) drill-down window.

5.2.1.2 Finding the Remote Site Equipment CLLIs

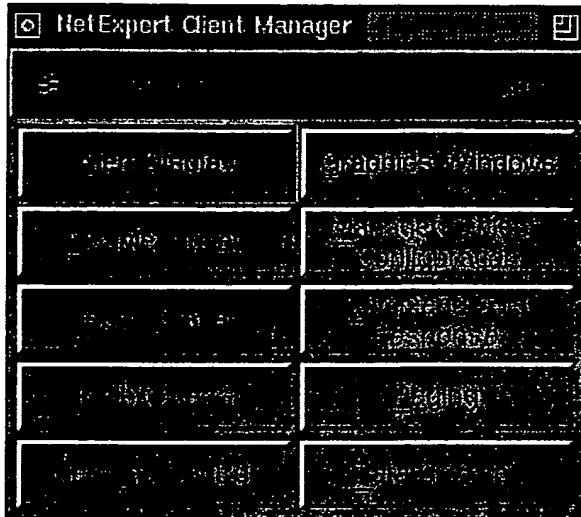
1. From the Building Loc: window, click on a CLLI in the second column (*Remote Site*). The *Remote Site* window appears.



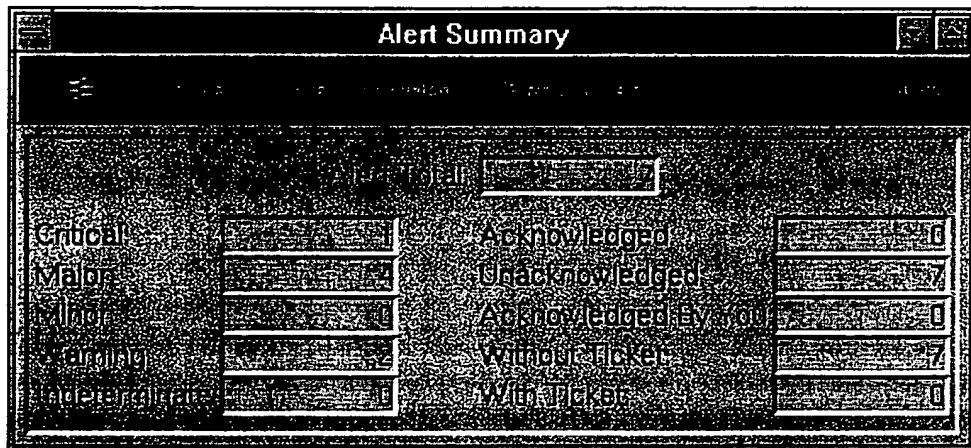
2. This screen provides the 12-character CLLIs for DSLAMs and Mini-Rams of the remote site. Make a note of data if you wish, then right-click your mouse button to bring up a menu from which to close this window.

5.2.2 Viewing the Detail of an Alert

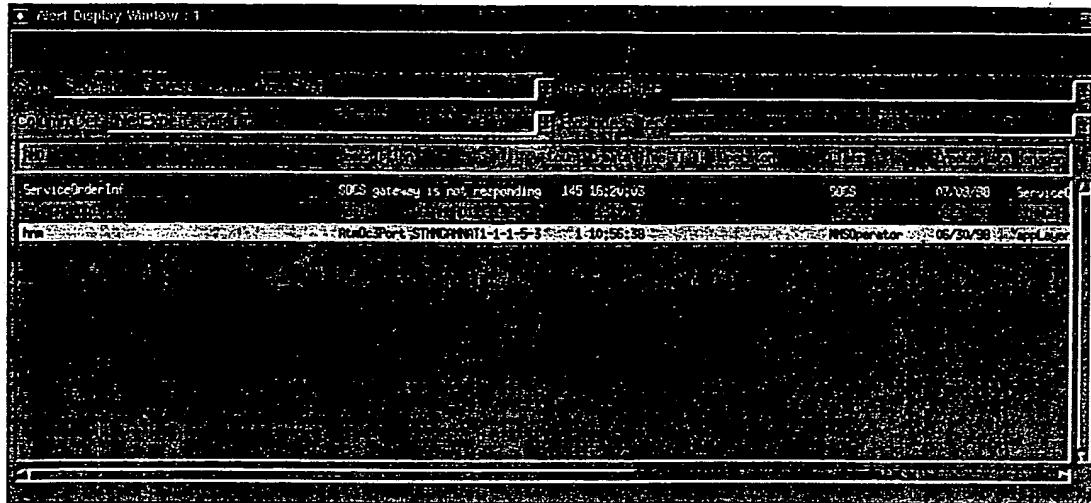
1. To view the details of this alert, go to the *NetExpert Client Manager* window (shown below).



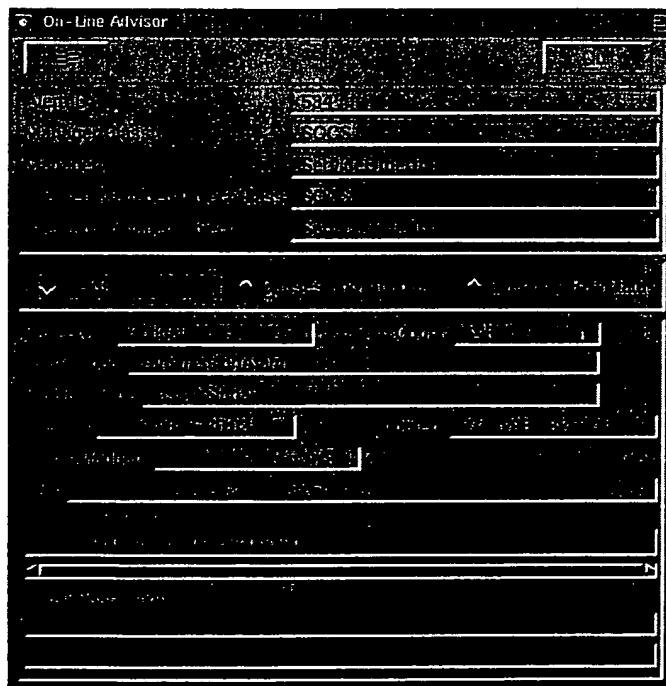
2. On the *NetExpert Client Manager* window, click on *Alert Display*. After a few moments, the *Alert Summary* window appears (shown below).



3. This window supplies information on the alert. To investigate further, on the *Alert Summary* window menu bar, click on *Alert Window*. From the drop-down menu that appears, select *New Window*. The *Alert Display* window appears (shown on the following page).



4. Highlight the alert for which you want detail. (Note that, on the *Include Filter:* and *Exclude Filter:* scroll bars, you may customize the format of the alert text that is displayed.) Then, on the menu bar, click on *Alert Management*. From the drop-down menu that appears, select *On-Line Advisor*. The *On-Line Advisor* window appears, as shown below.



5. This window supplies detail on the selected alert.

5.2.3 Checking the Error Logs

Error logs are files that contain details of errors or problems that have come up within NMS. These logs can be referenced to discover details of any system-generated error condition.

5.2.3.1 Types of logs

Six different error logs exist:

- Rma.log: Request for Manual Assistance; contains SO errors.
- Act.log: Documents the activities performed from the GUI by a user.
- Sys.log: Documents NMS internal errors.
- Cust.log: Documents facility failures and provides a list of the affected end-users.
- ServiceOrder.log: Maintains a copy of the SOs.
- Interface.log: Maintains a record of interface activity.

These logs reside in the \$NMS_HOME/Log directory.

5.2.3.2 Viewing the logs

To view the contents of any log, use the UNIX vi editor. In the example below, we will view the contents of the Act.log.

1. Bring up an Xterm window.
2. Type *cd nms/\$NMS_HOME/Log* and press <Enter>. (The *cd* command changes from the current directory to a different directory.)
3. Type *vi Act.log* and press <Enter>. (The *vi* command opens the visual editor.)
4. Type *grep oper1* and press <Enter>. (The *grep* command performs a search for a specific string of characters.)

By substituting another character string for the one shown above (*oper1*), you can search a log file for reference to a specific operator or warning.

5.2.4 E-mail for Alerts

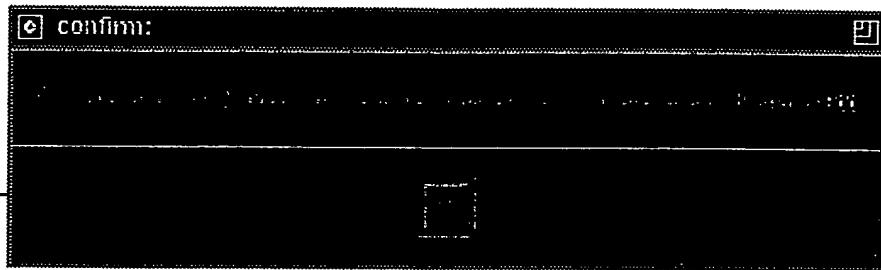
When DSLAM capacity approaches established thresholds, an e-mail is sent, either to a established set of users or to a group. These e-mail addresses are stored in the \$NMS_HOME/config directory on one line, separated by spaces.

Use vi editor (see *Viewing the Logs*, above) to edit the file *capmgr.conf*.

5.2.5 User Authorization Warning

Your system administrator will establish authorizations according to department management decision.

Events for which a specific user is unauthorized will be grayed out. If you select an event for which you have not been given authorization, the following window appears:

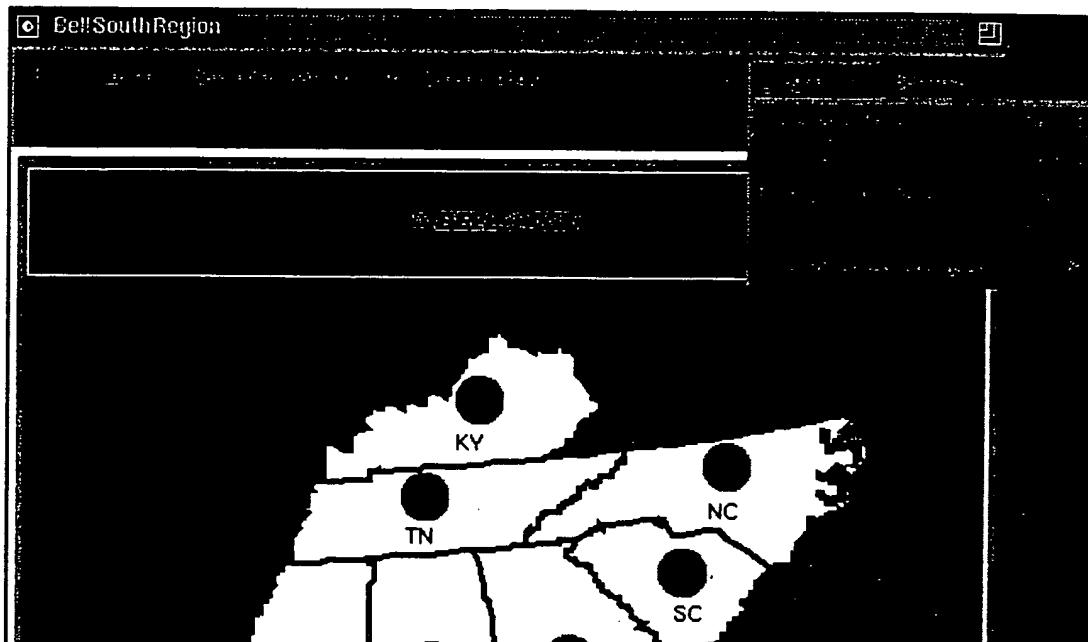


When this window appears, click on *OK* to close the window. To establish permission for this operation, consult your system administrator.

5.3 Diagnostic

Diagnostic functions are accessed through the main window menu bar. These functions allow the user to research port and PVC connections, and to determine the end users who are affected by upstream actions.

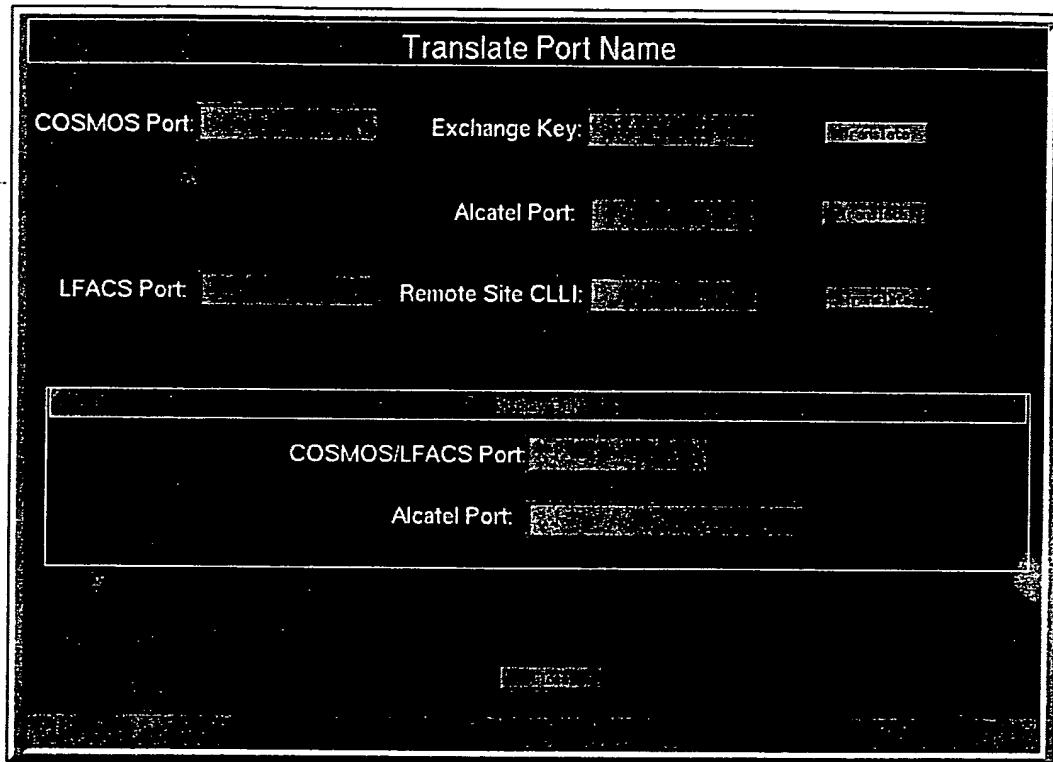
The *Diagnostic* drop-down menu, accessed through the *BellSouthRegion* window, is shown below.



5.3.1 Translate Port

The *Translate Port* function allows the user to translate between COSMOS and Alcatel port names.

1. On the *BellSouthRegion* window menu bar, click on *Diagnostic*, then select *Translate Port*. The *Translate Port Name* window appears, as shown below.

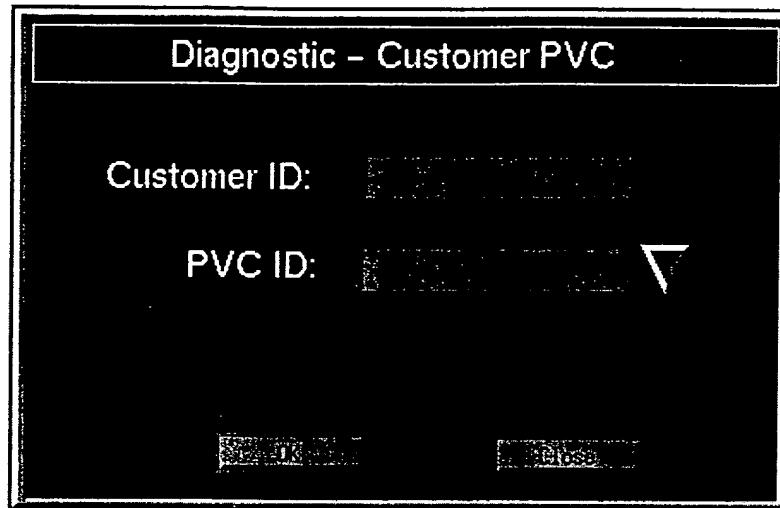


2. To find the Alcatel port number, enter, in the *COSMOS Port:* field, the COSMOS port name. In the *Exchange Key:* field, enter the exchange key. Click on *Translate*. The fields in the *Display Only* area populate.
Or, to find the Alcatel port number, enter, in the *LFACS Port:* field, the LFACS port name. In the *Remote Site CLLI:* field, enter the DSLAM or Mini-Ram CLLI. Click on *Translate*. The fields in the *Display Only* area populate.
3. To find the *COSMOS/LFACS* port name, enter, in the *Alcatel Port:* field, the Alcatel port number, then click on *Translate*. The fields in the *Display Only* area populate.
4. Make a note of this data, and then click on *OK* or *Close*.

5.3.2 Customer PVC

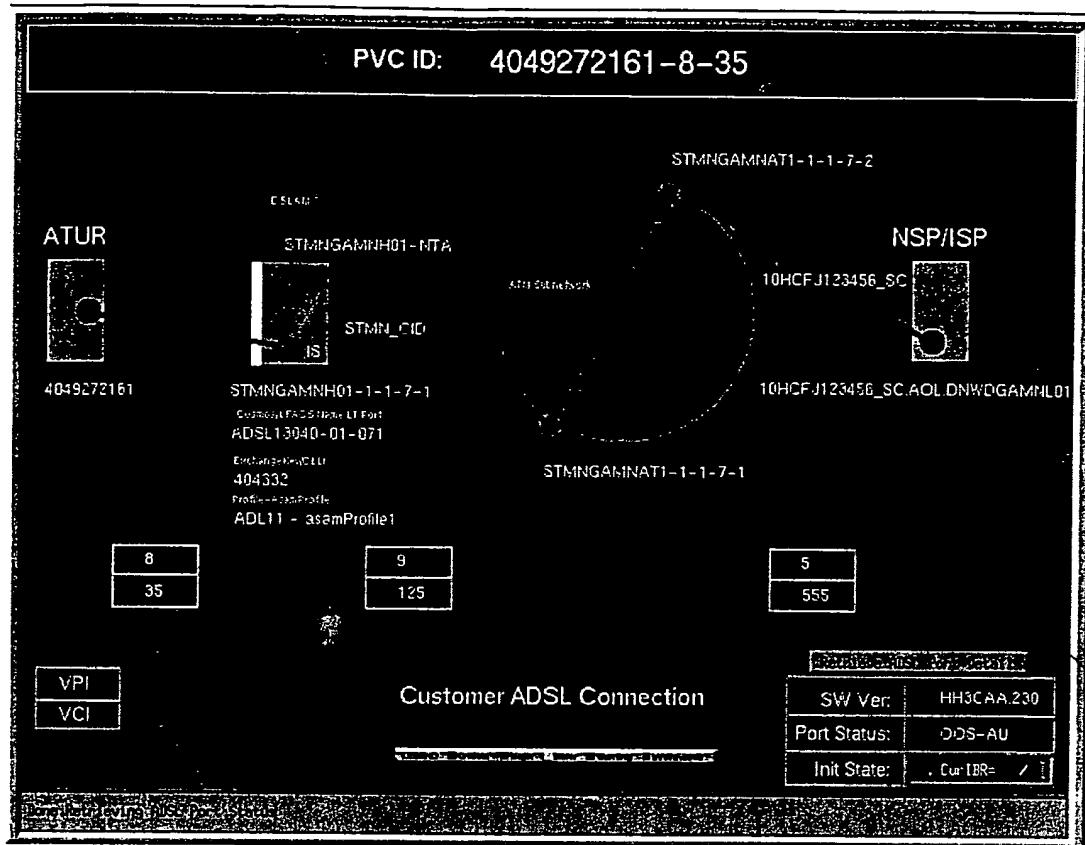
This function allows the user to have a network view of how a customer is connected to the network. It shows the VPI/VCI assignment, the COSMOS name, etc.

1. On the *BellSouthRegion* window menu bar, click on *Diagnostic*, then select *Customer PVC*. The *Diagnostic - Customer PVC* window appears, as shown below.



2. In the *Customer ID:* field, enter the customer telephone number, then press <Enter>. The *PVC ID:* field populates. Use the pick list arrow to view the PVC IDs. (Currently, there is only one PVC per telephone number.)
3. Click on *OK* (or, to cancel, click on *Close*). Observe the text window at bottom of the screen; confirm that the operation was successful. If you click on *OK*, the *PVC ID:* window appears (shown on the following page). (The window that displays will provide either a Direct VCC or Subtend VCC connections. These windows are shown on the following pages). In the next example window, we show the Direct VCC connections.

Direct VCC connections window:



4. This window provides an end-to-end view of this end-user's Direct VCC network connections.
5. Use the *Retrieve ADSL Port Detail* button, on the bottom, lower-right of the screen, to retrieve the software version, port status, and the modem initialization state. Where any problems exist, the screen will show alert conditions. Take any notes from this display, and then close the window.

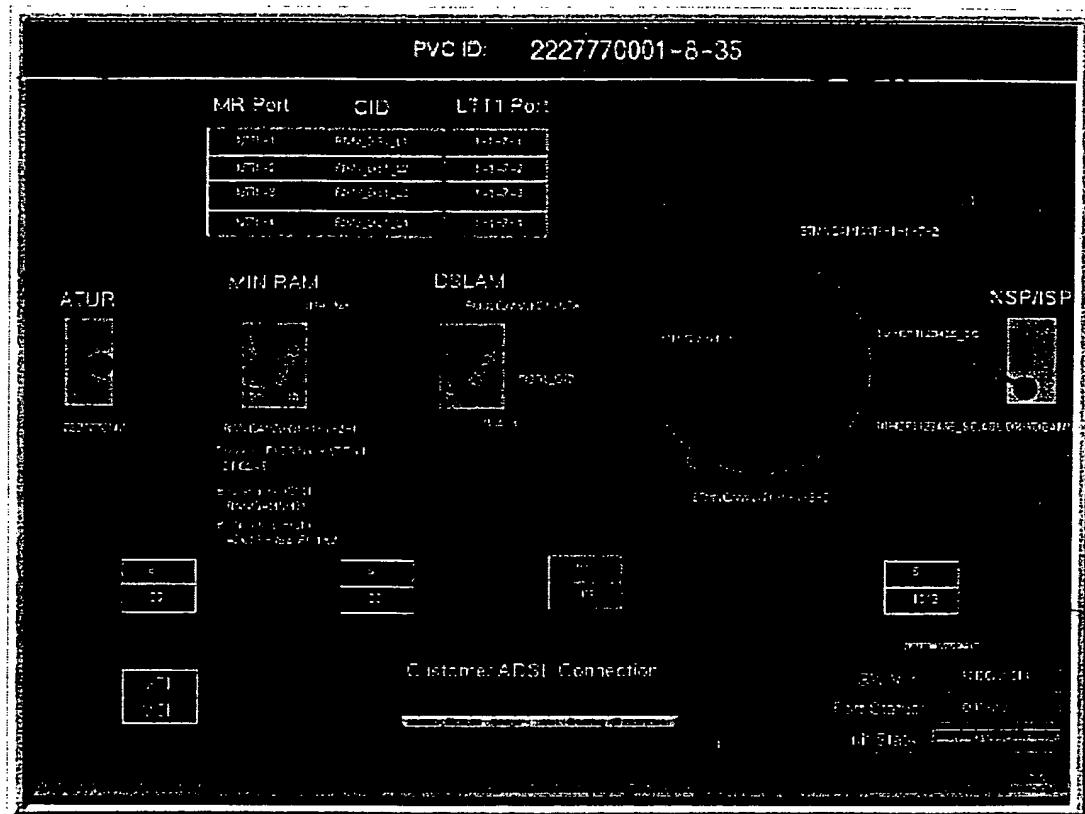
Status	IS-NR	OOS-AU	OOS-MA	OOS-AUMA
Administrative	unlocked	unlocked	unlocked	unlocked
Operational	enabled	disabled	enabled	disabled

6. The window below provides an end-to-end view of this end-user's Subtend VCC network connections.

Click on the *Retrieve Port Used* button, on the bottom, lower-right of the screen, to retrieve the software version, port status, and the modem initialization state. Where any problems exist, the screen will show alert conditions. Take any notes from this display, and then close the window.

If there is a problem with a DSLAM, ATM port, or NT port, the relative object changes color, allowing the user to quickly observe where a problem exists.

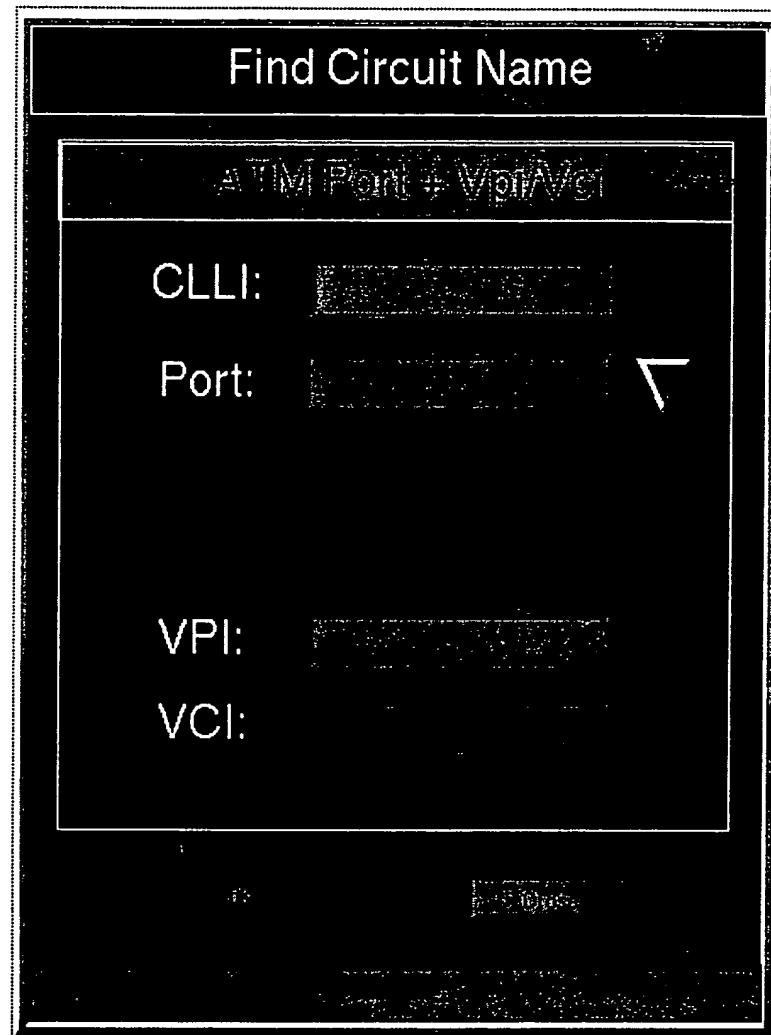
Subtend VCC connections window:



5.3.3 Find Circuit Name

This function allows the user display any duplicate VPI/VCI assignments.

1. On the *BellSouthRegion* window menu bar, click on *Diagnostic*, then select *Find Circuit Name*. The *Find Circuit Name* window appears, as shown below.

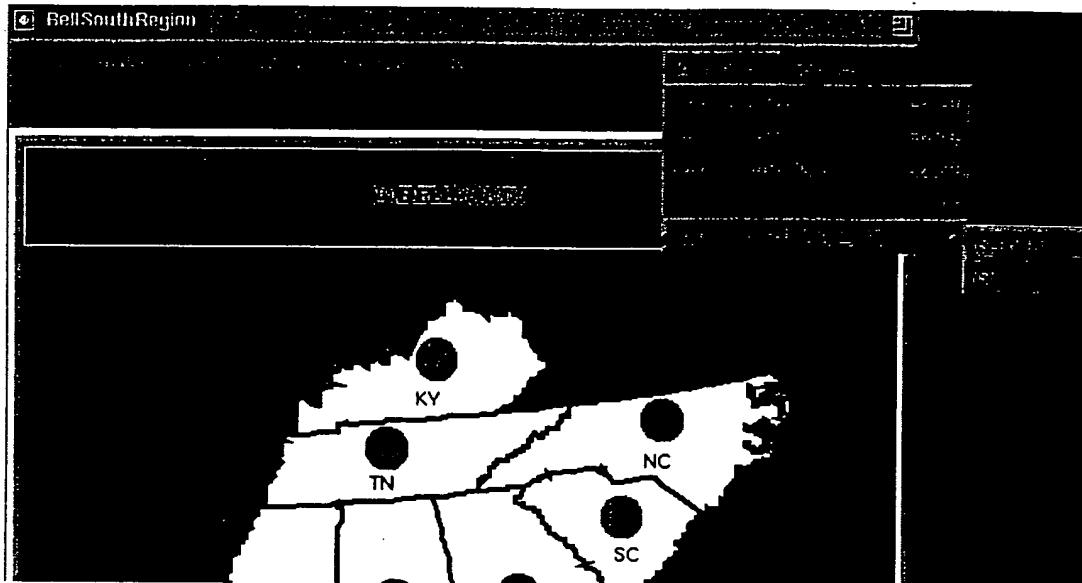


2. Enter the CLLI, and press <Tab> The *Port:* field populates.
3. Select the port, and click on *OK*. If any duplicate VPI/VCIs exist, they will show up in the status bar field. Make a note of any duplicates that appear, and then close the window.

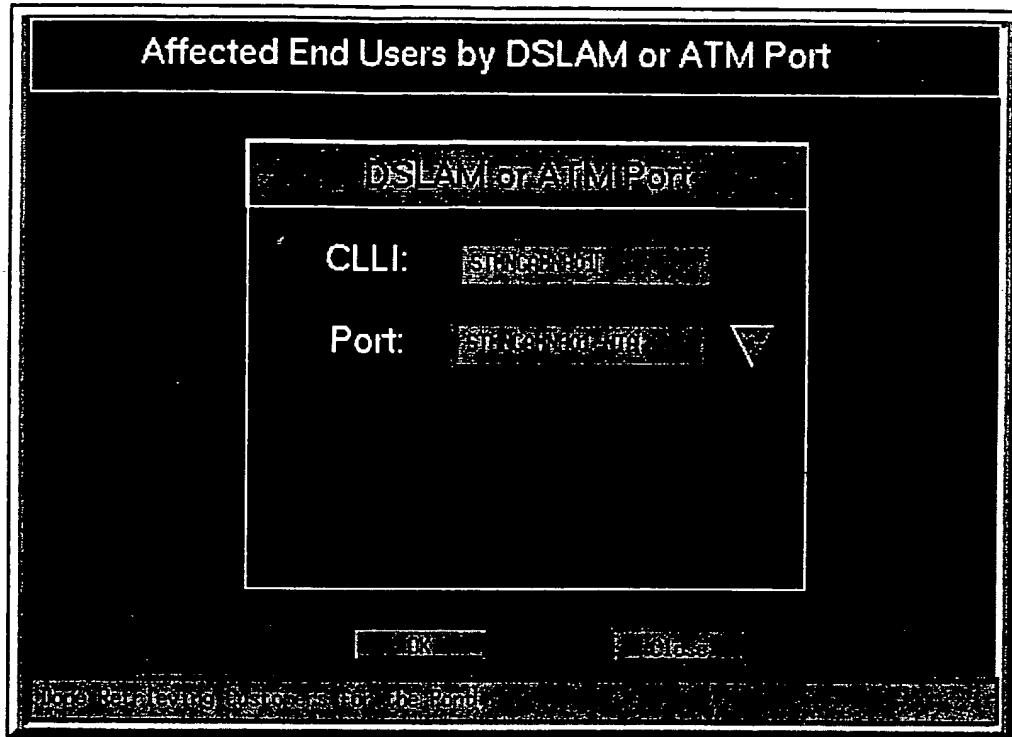
5.3.4 Affected End-users

5.3.4.1 DSLAM or ATM Port

The *Diagnostic/Find Affected End Users* drop-down menus are accessed through the main window menu bar, as shown below.



1. On the *BellSouthRegion* window menu bar, click on *Diagnostic*, then select *Find Affected End Users*, and then select *DSLAM, ATM....*. The *Affected End Users by DSLAM or ATM Port* window appears, as shown on the following page (in this example, we have already populated the window).



2. In the *CLLI:* field, enter the CLLI of either the DSLAM or ATM switch, and press **<Tab>**. The *Port:* field populates.
3. From the pick list on the *Port:* field, select a port (or accept the default).
4. Click on *OK*. The screen on the following page displays.

25

Affected End users of STMNGAMNH01-NTA

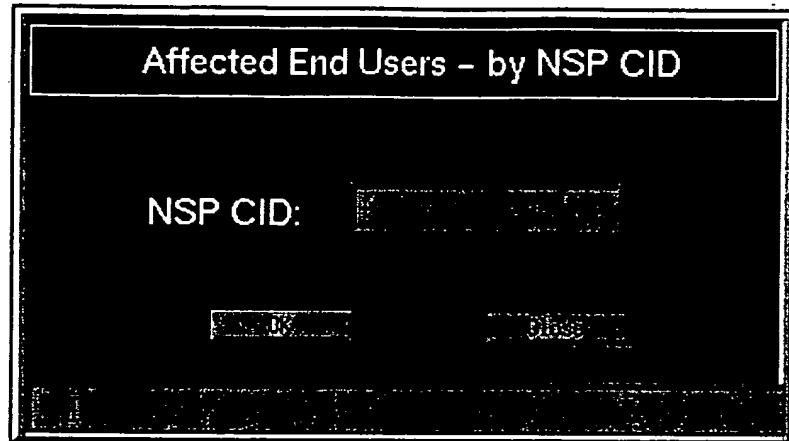
5. Make a note of the data, and then click on *Close* to close this window.

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See proprietary restrictions on title page.

5.3.4.2 NSP

1. On the *BellSouthRegion* window menu bar, click on *Diagnostic*, then select *Find Affected End Users*, and then select *NSP...*
2. The *Affected End Users by NSP CID* window appears.



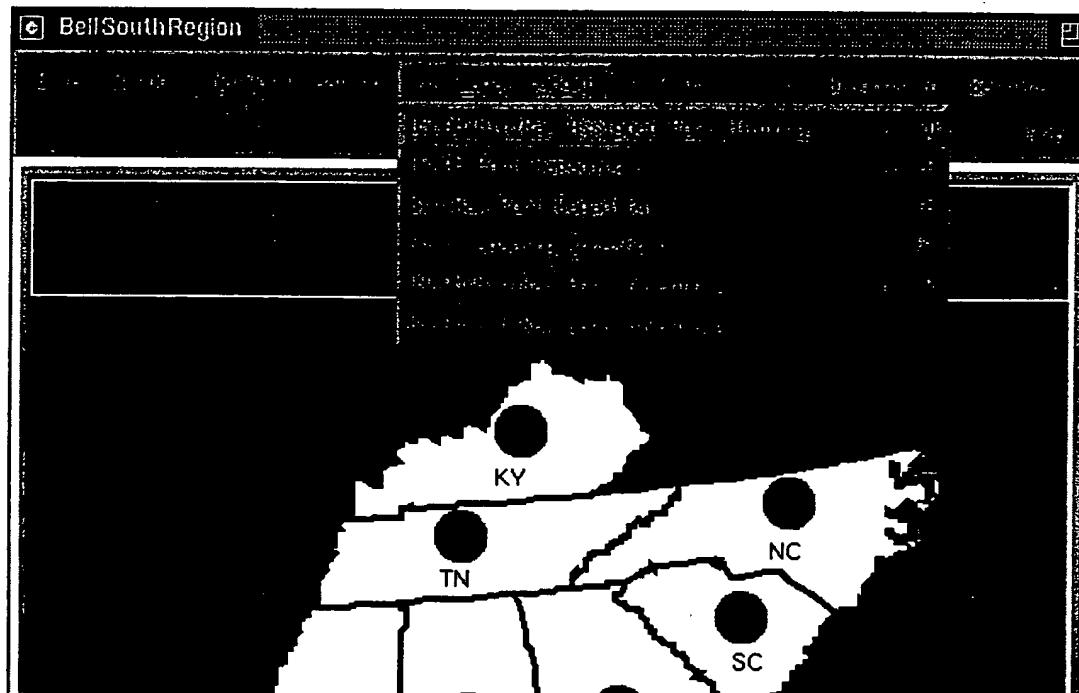
3. In the *NSP CID:* field, enter the NSP circuit ID, and click on *OK*.
(The window already shown on the previous page appears.)
4. Make a note of the data that the window displays, and then click on *Close* to close the window.

6. Capacity and Inventory Management

This chapter explains how DSLAM subnetwork port capacities are managed and inventoried, and how capacity thresholds are established.

6.1 The Drop-down Menus

The Inventory/Capacity Management drop-down menus are accessed through the main window menu bar, as shown below.

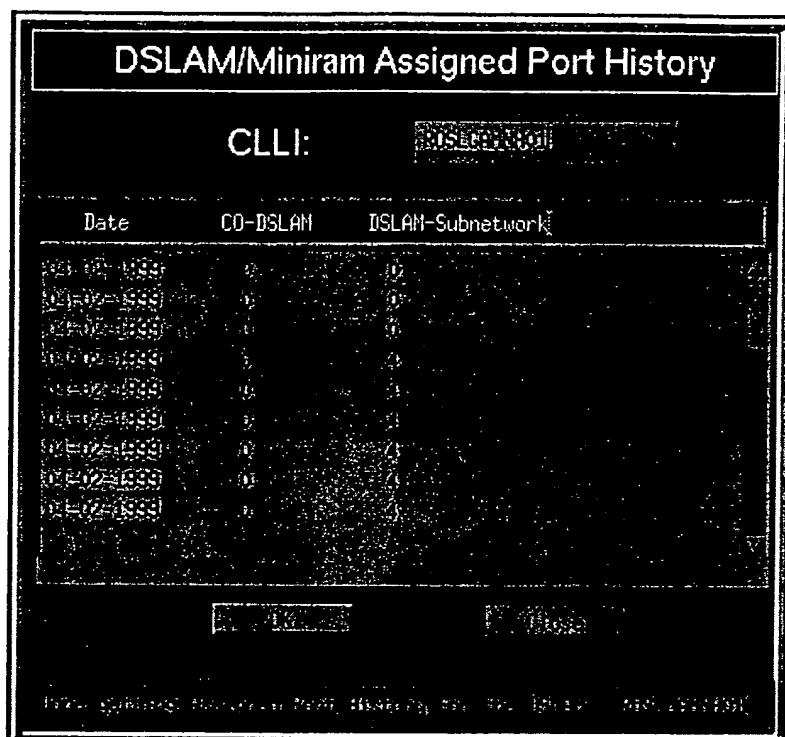


The functions of these menu choices are explained on the following pages.

6.2 Assigned Port History

This window displays the assigned port history of a DSLAM or MiniRam.

When this option is selected, the *DSLAM/MiniRam Assigned Port History* window appears, as shown below.



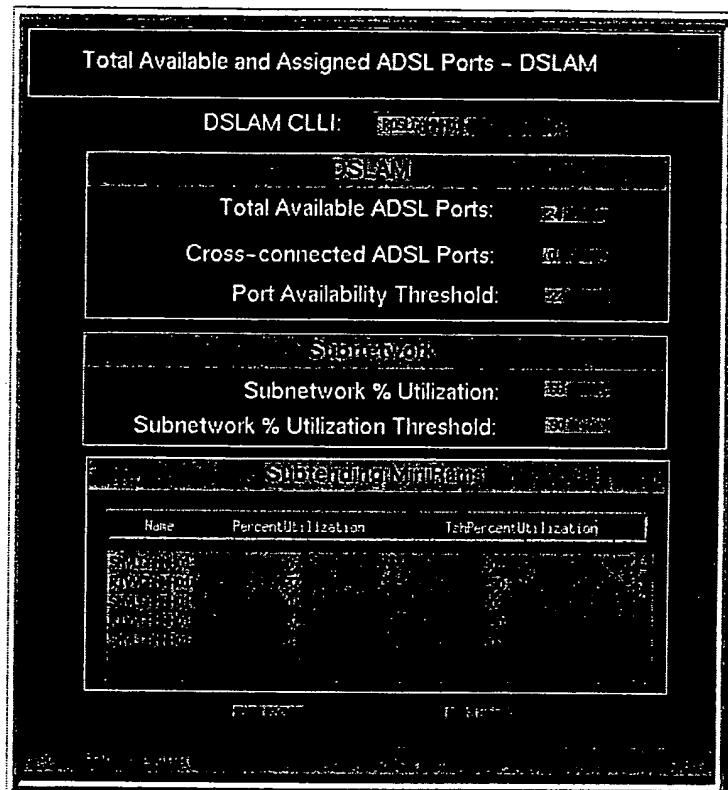
Enter either a DSLAM or Mini-Ram CLLI, and click on *OK*. The field will populate with its history data.

Capture this data as needed, and close the window.

6.3 DSLAM Port Capacity

This window displays the ADSL subnetwork (DSLAM and subtending Mini-Rams) port capacities and thresholds, and the subnetwork percentage of use.

When this option is selected, the *DSLAM Port Capacity* window appears, as shown below.



The DSLAM information displays the availability and thresholds of the ADSL ports of only this specific DSLAM. The subnetwork information displays a combination of the ADSL ports on this DSLAM and on all its subtending Mini-Rams. The subtending Mini-Rams information that is displayed is for specific ADSL ports on the Mini-Ram, and does not include ADSL ports on the DSLAM.

Note: *Note that the thresholds are set via the DSLAM capacity threshold screen.*

Enter a DSLAM CLLI, and click on *OK*. The field will populate with its assigned ports data.

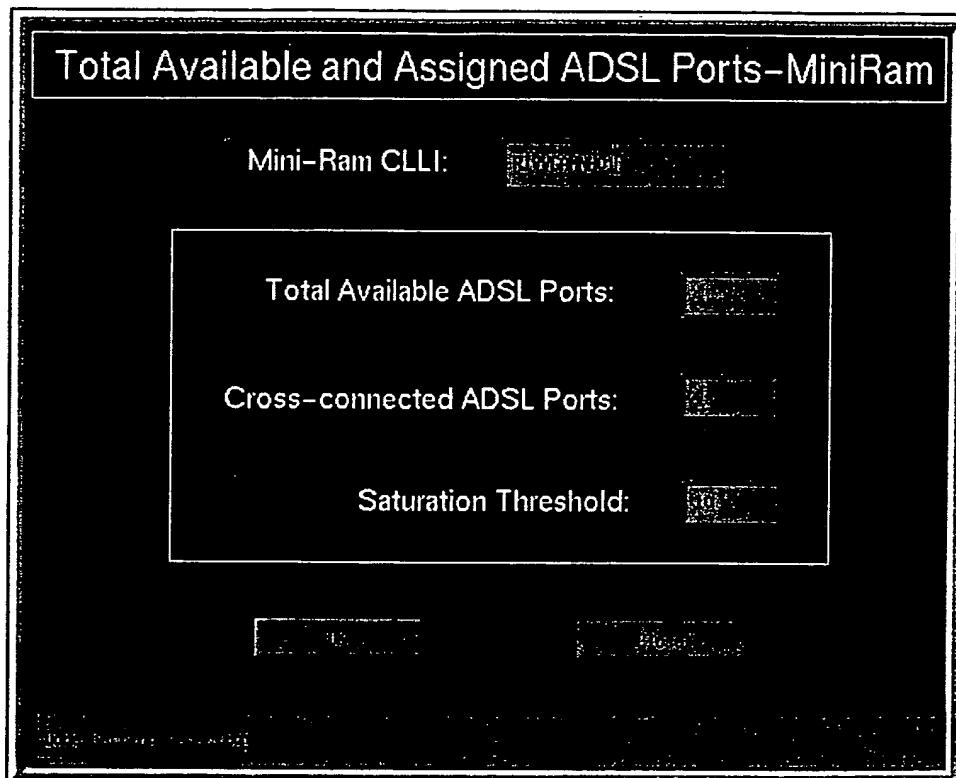
Capture this data as needed, and close the window.

6.4 Mini-Ram Port Capacity

This window displays the ADSL port availability and saturation thresholds for specific Mini-Rams.

When this menu is selected, the *Total Available and Assigned ADSL Ports - MiniRam* window appears, as shown below.

Note: Note that the thresholds are set via the DSLAM capacity threshold screen.

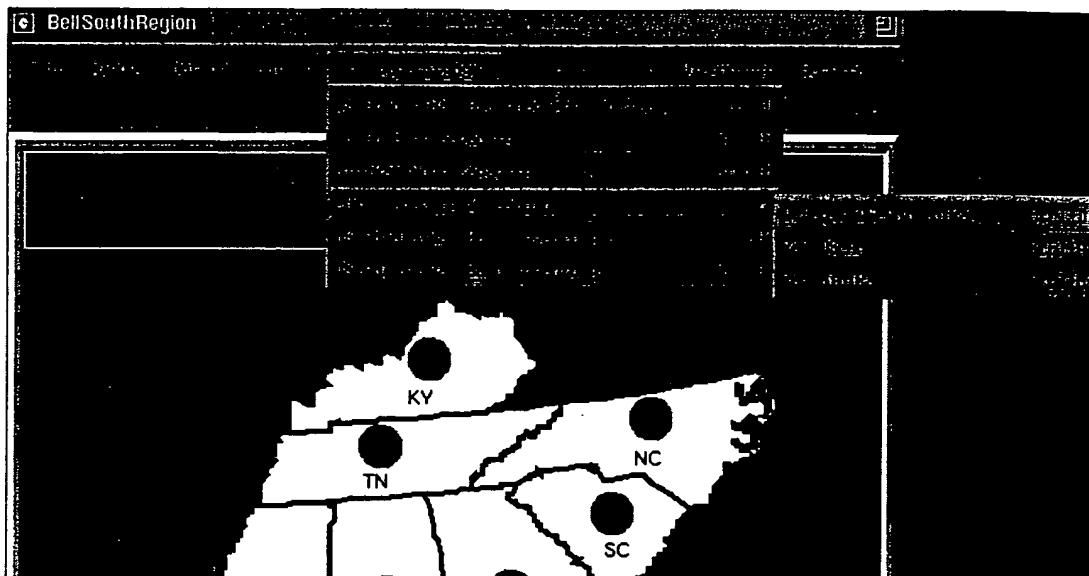


Enter a Mini-Ram CLLI, and click on *OK*. The field will populate with its assigned ports data.

Capture this data as needed, and close the window.

6.5 Editing Capacity Thresholds

The *Edit Capacity Threshold* has three drop-down menu choices: *Default DSLAM/MiniRam*, *Per DSLAM*, and *Per MiniRam* (as shown below).



The functions of these menu choices are explained on the following pages.

6.5.1 The Default DSLAM/Mini-Ram Thresholds

The default DSLAM and Mini-Ram thresholds are viewed and accessed through the *Capacity Management – Thresholds* window. These thresholds are global default values for all DSLAMs.

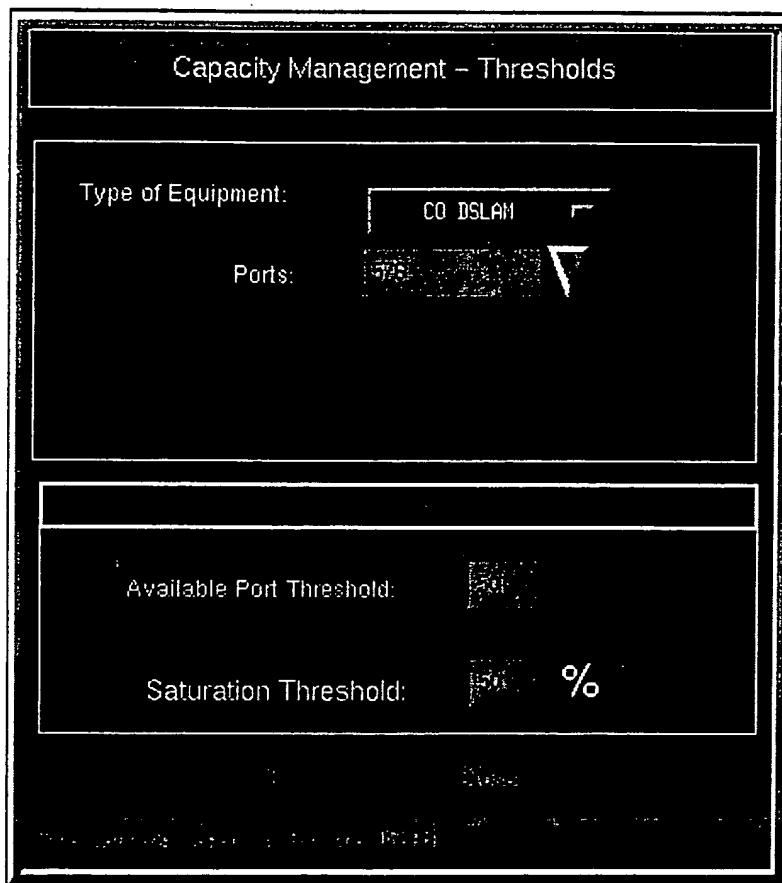
Threshold alarms are generated under the following conditions:

(actual percentage use)>(threshold for available ADSL port) =alert

(actual number of available ports)<(threshold for available ADSL port) =alert

Both of these thresholds are set by the user.

To display this window, from the *BellSouthRegion* window menu bar, click on *Inv/CapacityMgmt*, select *Edit Capacity Threshold*, then *Default DSLAM/MiniRam*. The *Capacity Management – Thresholds* window appears, as shown below.



This window can be used to set the default port availability threshold and saturation thresholds for a CO DSLAM, remote DSLAM or Mini-Ram.

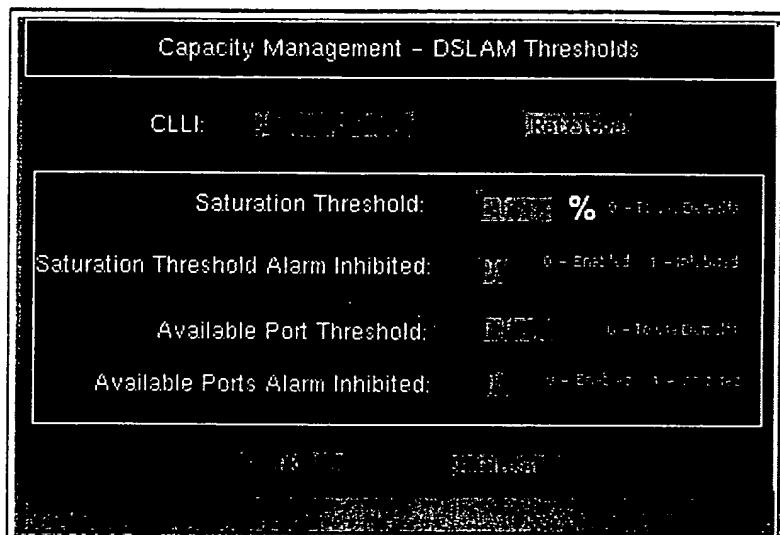
- The values shown above are default values. In the *Available Port Threshold*: field, the value is an absolute number.
- In the *Saturation Threshold*: field, the value is a percentage of 576, which is the maximum capacity of a DSLAM. This value could reasonably be increased to 80%, but its value should be decided by the system administrator.

After making any threshold changes, click on *OK* (or, to cancel, click on *Close*). The changes are committed to NMS.

Click on *Close* to close the window.

6.5.2 Per DSLAM

The *Per DSLAM* option brings up the *Capacity Management – Thresholds* window, as shown on the following page. This window can be used to set the default port availability threshold and saturation thresholds for a specific CO DSLAM/remote DSLAM.



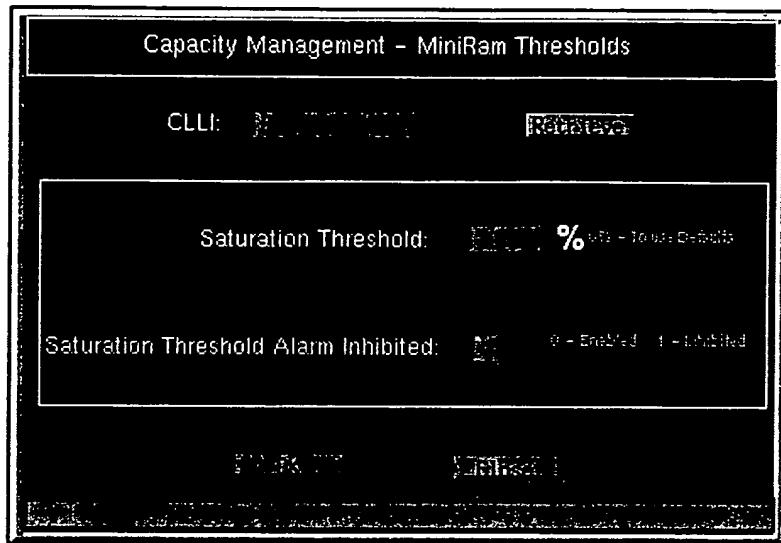
Percentage utilization = (number of cross-connected ports) divided by the total DSLAM ports (576). For example, 57 cross-connected ports, divided by 576, equals a percentage utilization of 10%.

1. In the *CLLI*: field, enter the CLLI, and click on the *Retrieve* command button. The other fields will populate according to the DSLAM selected. If zeros are in the threshold fields, replace them with the default values.
2. In the *Saturation Threshold*: field, enter the new value (which will override the globally-established default value).

3. To inhibit an alarm (once a DSLAM is full), proceed to the *Saturation Threshold Alarm Inhibited* field and change its value from *0* to *1*. When an alarm is enabled, the systems will produce alarms any time the threshold is reached.
4. In the *Available Port Threshold*: field, enter the new value (which will override the globally-established default value).
5. To inhibit an alarm (once a DSLAM is full), proceed to the *Ports Available Alarm Inhibited* field and change its value from *0* to *1*. When an alarm is enabled, the systems will produce alarms any time the threshold is reached.
6. After making any changes, click on *OK* (or, to cancel, click on *Close*). The delete is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
7. Click on *Close* to close the window.

6.5.3 Per Mini-Ram

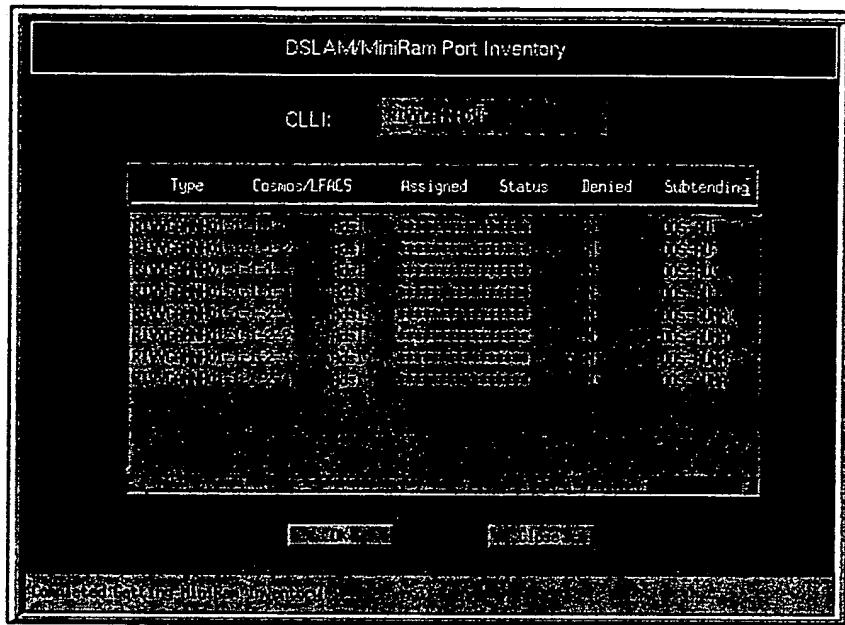
The *Per MiniRam* option brings up the *Capacity Management – MiniRam Thresholds* window, as shown below. This window can be used to set the default port availability threshold and saturation thresholds for a specific Mini-Ram.



- Percentage utilization = (number of cross-connected ports) divided by the total Mini-Ram ports (8 or 16). For example, 2 cross-connected ports, divided by 8, equals a percentage utilization of 25%.
 1. In the *CLLI*: field, enter the *CLLI*, and click on the *Retrieve* command button. The other fields will populate according to the Mini-Ram selected. If zeros are in the threshold fields, replace them with the default values.
 2. In the *Saturation Threshold*: field, enter the new value (which will override the globally-established default value).
 3. To inhibit an alarm (once a DSLAM is full), proceed to the *Saturation Threshold Alarm Inhibited* field, and change its value from *0* to *1*. When an alarm is enabled, the systems will produce alarms any time the threshold is reached.
 4. After making any changes, click on *OK* (or, to cancel, click on *Close*). The delete is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
 5. Click on *Close* to close the window.

6.6 DSLAM/Mini-Ram Port Inventory

The *Per MiniRam* option brings up the *DSLAM/MiniRam Port Inventory* window, as shown below (in this example, we show it already populated with data):



1. In the *CLLI:* field, enter the CLLI. After a delay, the field below will populate with information (as shown in the display).

ADSL Port is in the configuration of (for example):

- STMNGAMNH01-1-1-2-1, where the first 11 characters represents the DSLAM CLLI; and the next 4 digits, the rack, shelf, card, and port.

COSMOS Port is in the configuration of (for example):

- ADSL130100-01-061, where the first 7 characters represents the DSLAM CLLI; the next 3 are the rack, shelf, and card.

Cross-connect status will be either OOS (Out Of Service) or IS (In Service). This status is collected from NMS.

Port status will be either OOS-AU, OOS-AUMA, OOS-MA, IS-NR, or blank (if it is administratively out of service [denied service]).

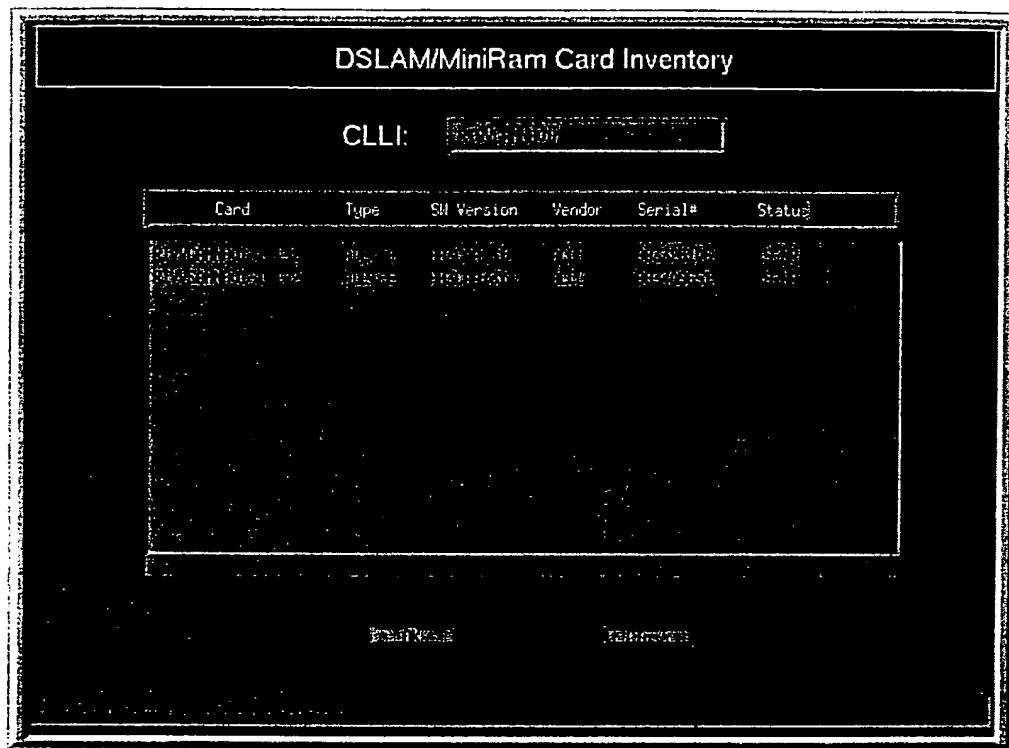
OOS indicates that no Atur is connected; IS indicates connection.

2. Capture this data as necessary, and then click on *Close* to close the window.

6.7 DSLAM/Mini-Ram Card Inventory

The *DSLAM/MiniRam Card Inventory* menu selection brings up the *DSLAM/MiniRam Card Inventory* window, which displays the inventory for DSLAMs, remote DSLAMs or Mini-Rams. The card inventory contains information, such as the software version and vendor information.

In this example, we show the window already populated with data.



1. In the *CLLI:* field, enter the CLLI. After a delay, the field populates with information (as shown in the above display).
2. Capture this data as necessary.
3. Click on *Close* to close the window.

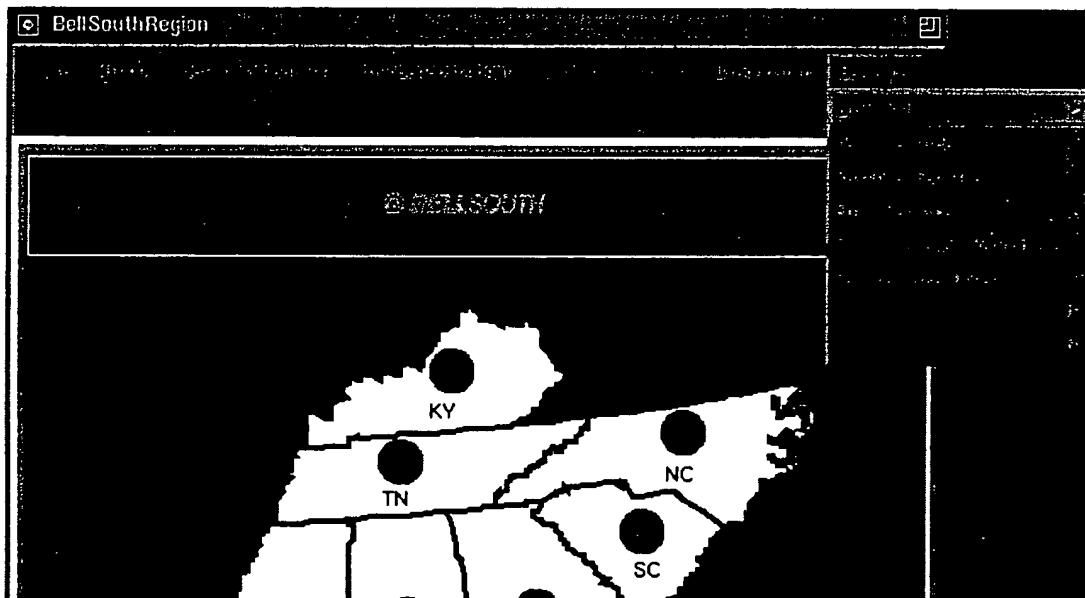
7. Service Management

Service Management functions are used to manage bulk PVC, deny, restore, or edit service, edit a customer's record, delete an SO, and modify the customer's profile (accessed via the *ATUR-NSP* menu).

Note: *Creating and deleting the Atur-NSP connections is discussed in Chapter 4.*

7.1 The Service Drop-down Menus

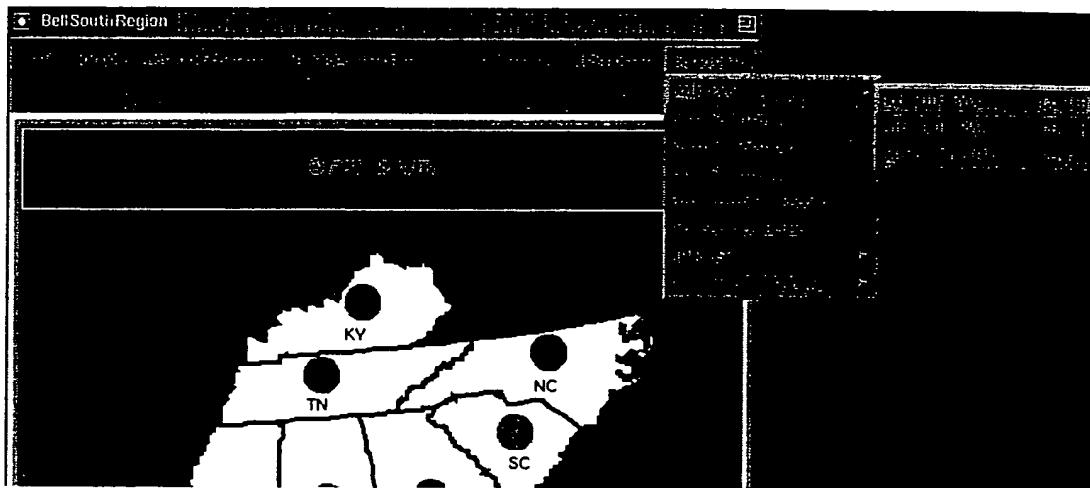
The *Service* drop-down menus are accessed through the main window menu bar, as shown below.



Follow the instructions on the following pages to perform the various service functions.

7.2 Bulk PVC

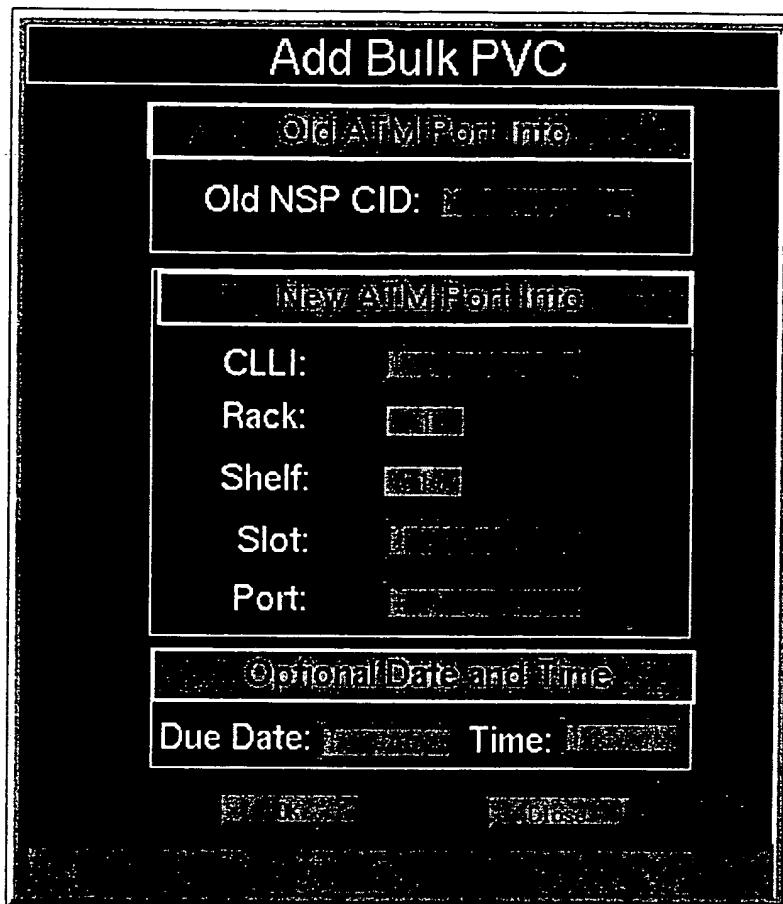
1. On the *BellSouthRegion* window menu bar, click on Service.
2. On the drop-down menu that appears, select *Bulk PVC*....
3. The following menu choices appear:



These three menu selections are described on the following pages.

7.2.1 Add Bulk PVC

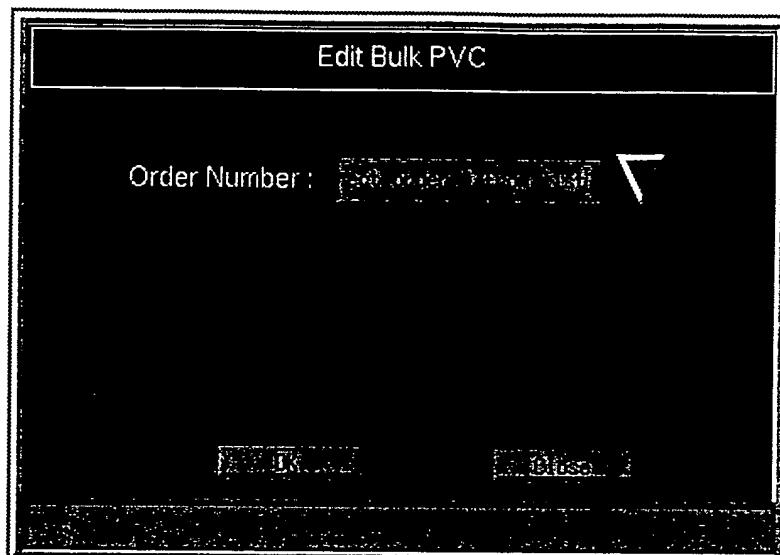
If you select *Add Bulk PVC...*, the following window appears:



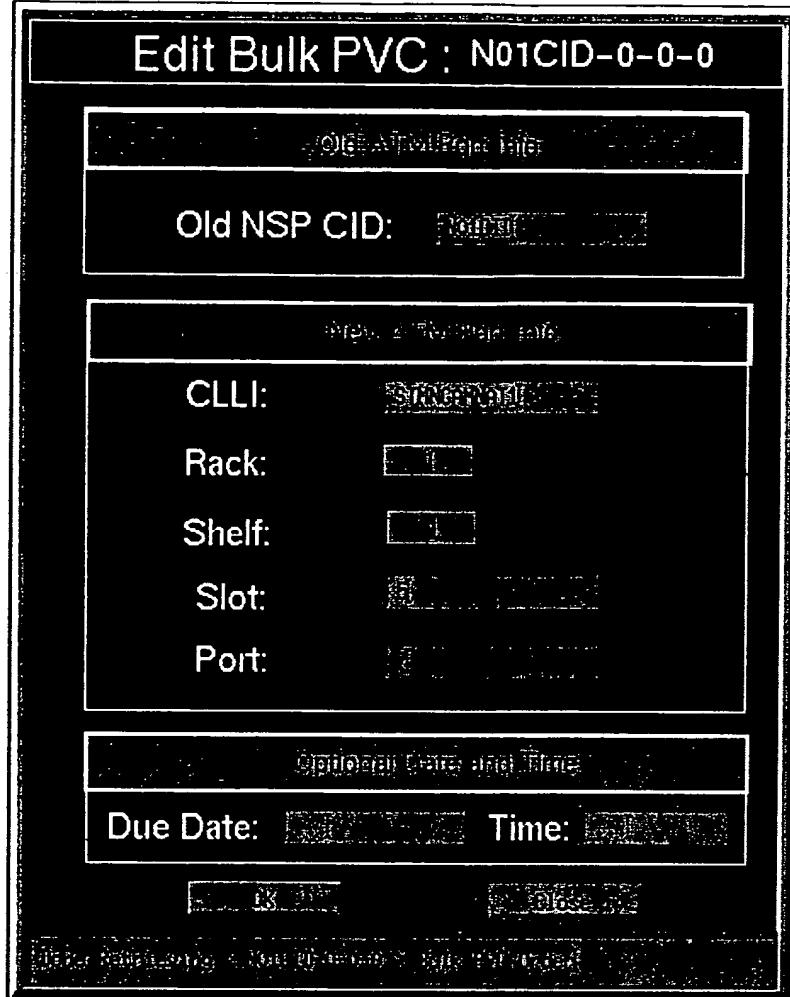
The bulk PVC is used to move all logical circuits from one physical link to another. The new ATM port will change the physical link Z end point. All PVCs will be moved on due date. Failure to move any PVC will generate an alert. The bulk PVC order can be edited using the *Edit Bulk PVC* menu option.

7.2.2 Edit Bulk PVC

If you select *Edit Bulk PVC...*, the following window appears:



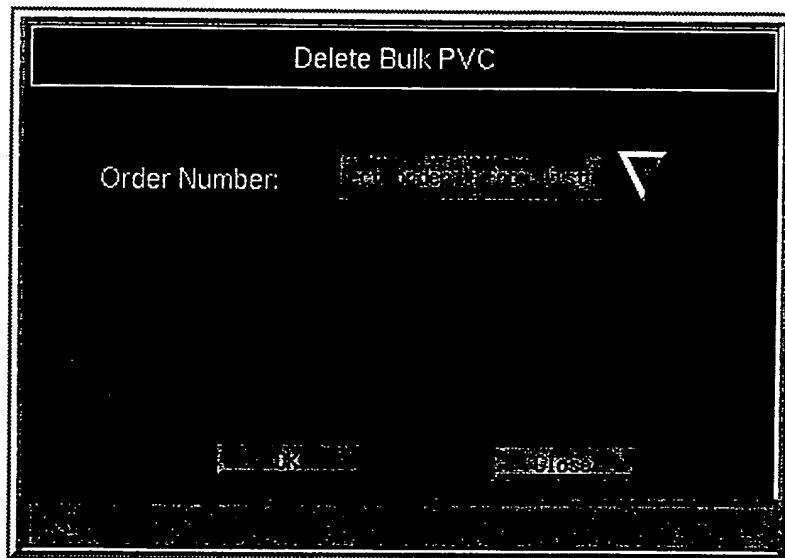
1. From the pick list on the Order Number field, select an SO number from the list.
2. Click on *OK* (or, to cancel, click on *Close*).
3. The *Edit Bulk PVC* window displays (as shown on the following page).



4. In the *Old NSP CID:* field, enter the old NSP circuit ID.
5. In the *CLLI:* field, enter the CLLI. The *Rack:* and *Shelf:* fields contain default values, and must be skipped.
6. In the *Slot:* field, enter the slot number.
7. In the *Port:* field, enter the port number.
8. The next two fields are optional; enter the Due Date and Time, if desired.
9. Click on *OK* (or, to cancel, click on *Close*).

7.2.3 Delete Bulk PVC

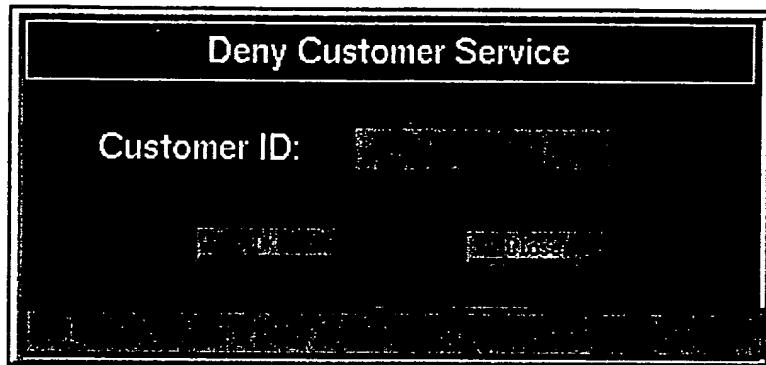
If you select *Delete Bulk PVC...*, the *Delete Bulk PVC* window appears:



1. In the *Order Number:* field, select, from the pick list, the order number from which you wish to delete the bulk PVC order.
2. Click on *OK* (or, to cancel, click on *Close*).

7.3 Denying Service

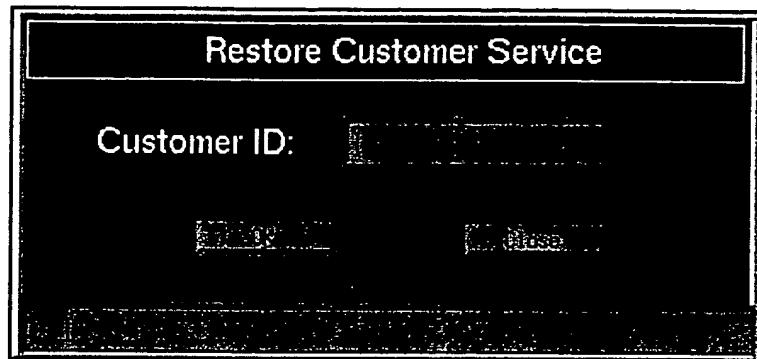
1. On the *BellSouthRegion* window menu bar, click on Service.
2. On the drop-down menu that appears, select *Deny Service*....
3. The *Deny Customer Service* window displays:



4. In the *Customer ID:* field, enter the customer telephone number.
5. Click on *OK* (or, to cancel, click on *Close*). The Deny Customer Service action is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
6. Click on *Close* to close the window.

7.4 Restoring Service

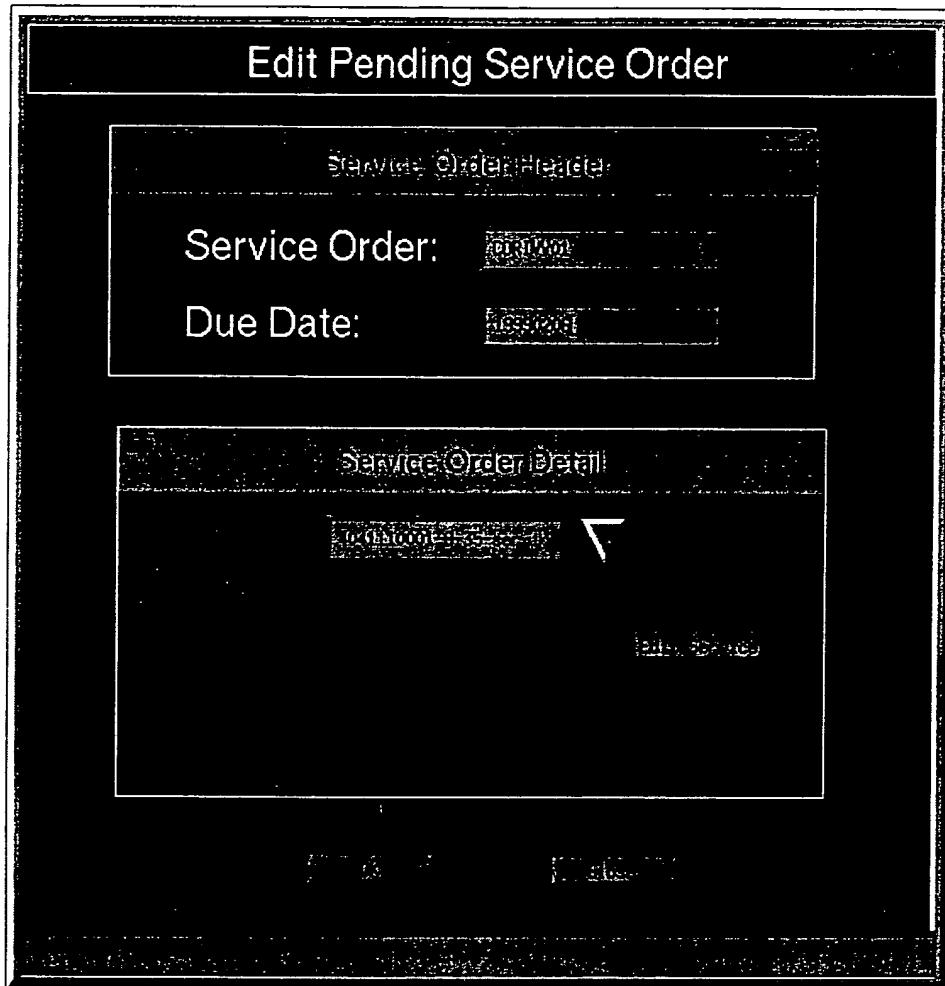
1. On the *BellSouthRegion* window menu bar, click on Service.
2. On the drop-down menu that appears, select *Restore Service*.
3. The *Restore Customer Service* window displays (as shown below).



4. In the *Customer ID:* field, enter the customer telephone number.
5. Click on *OK* (or, to cancel, click on *Close*). The *Restore* is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
6. Click on *Close* to close the window.

7.5 Editing Service

1. On the *BellSouthRegion* window menu bar, click on Service.
2. On the drop-down menu that appears, select *Edit Service....*
3. The *Edit Pending Service Order* window displays.

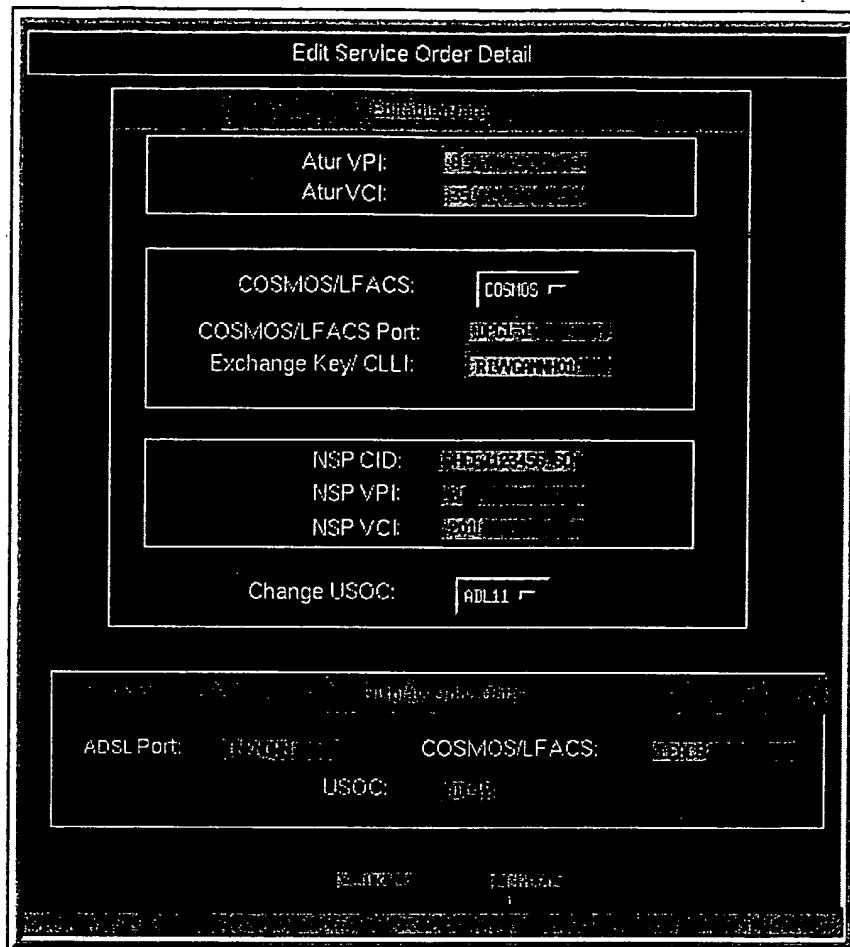


To change the due date:

4. To change the due date, in the *Service Order:* field, enter the SO number, and then press **<Tab>**.
5. The *Due Date:* and *Service Order Detail* fields populate. If you wish to change only the due date, do so, and then click on *OK*.

To edit the detail of an SO:

1. Click on the pick list triangle under the *Service Order Detail* heading, and select a TN_VPI-VCI_I from the list.
2. Click on *Edit Service*. The *Edit Service Order Detail* window appears, as shown below.



Note: *The telephone number cannot be changed.*

3. In the appropriate fields, make the necessary changes.

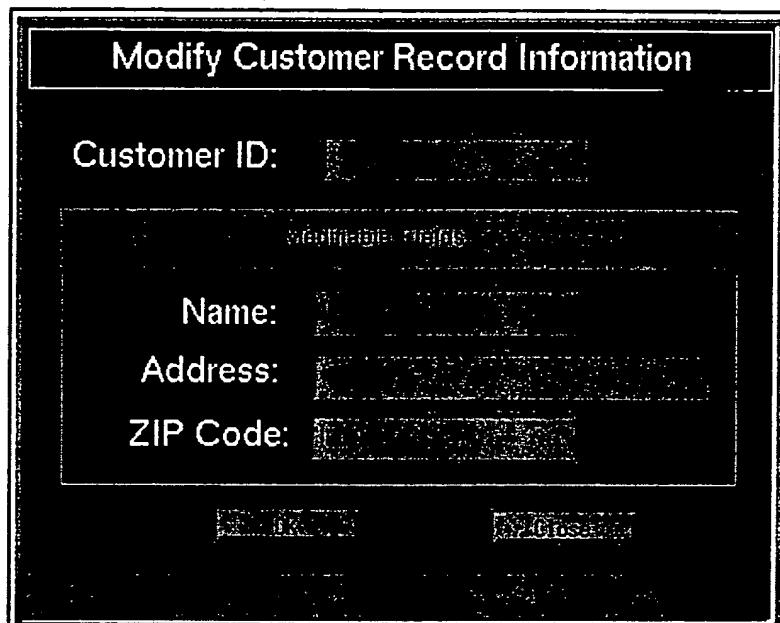
Note: *The NMS cannot set the option button's initial display state. Be careful to set the desired state before clicking OK.*

4. Click *OK* (or, to cancel, click on *Close*). The action is committed to the database.
5. Click on *Close* to close the window.

7.6 Editing a Customer Record

This screen is used to modify the customer information, such as name, address, and ZIP code.

1. On the *BellSouthRegion* window menu bar, click on *Service*.
2. On the drop-down menu that appears, select *Edit Customer Record*....
3. The *Modify Customer Record Information* window displays.



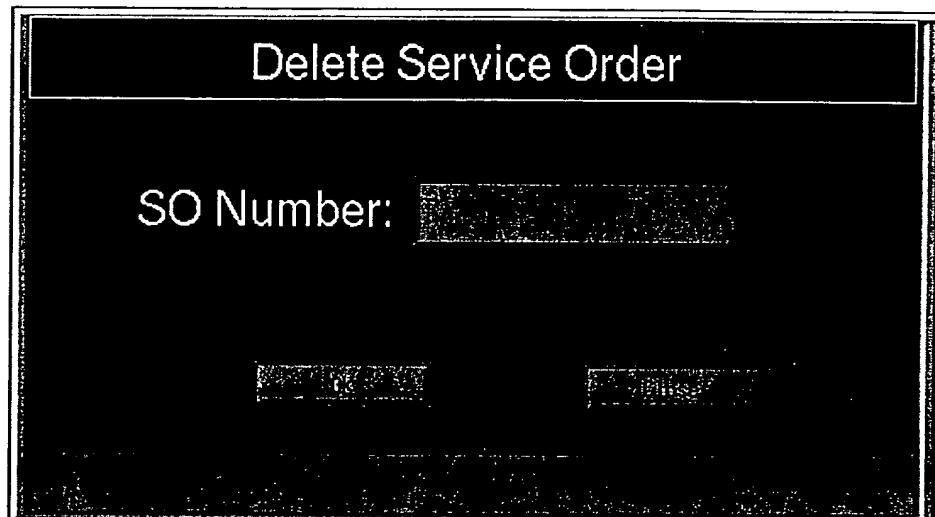
1. In the *Customer ID*: field, enter the customer's telephone number, and press *<Tab>*.
2. The other three fields populate, and their data can be modified as needed.
3. Click on *OK* to submit the changes to NMS.
4. Click on *Close* to close the window.

7.7 Deleting a Service Order

This screen is used to delete a service order.

Note: *Use this screen only in emergency situations to facilitate the deletion of a PVC that had been created in NMS as a result of a SO (still active in NMS, because the completion pass has not been received) received from SOCS.*

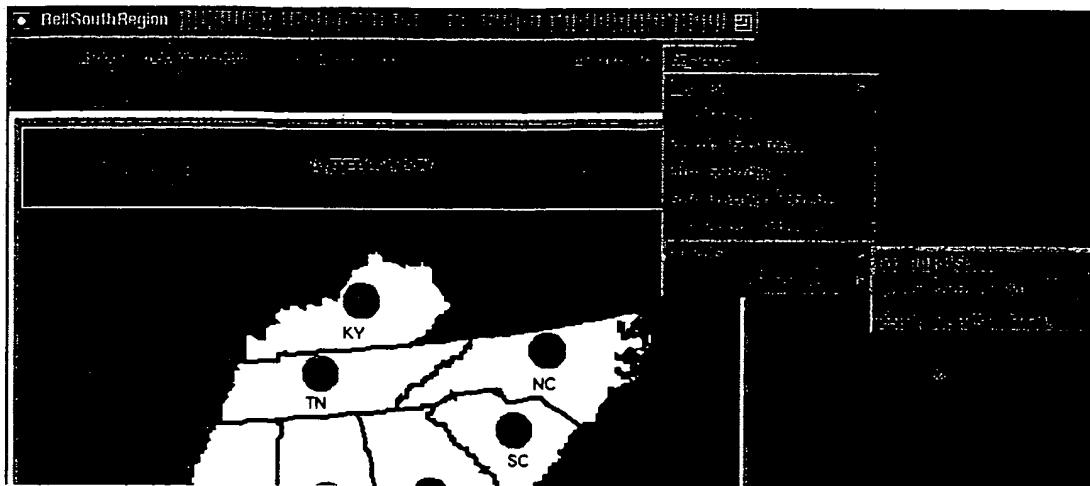
1. On the *BellSouthRegion* window menu bar, click on *Service*.
2. On the drop-down menu that appears, select *Del Service Order....*
3. The *Delete Service Order* window displays.



1. Enter the SO number (eight characters) and click on *OK*.
2. Click on *Close* to close the window.

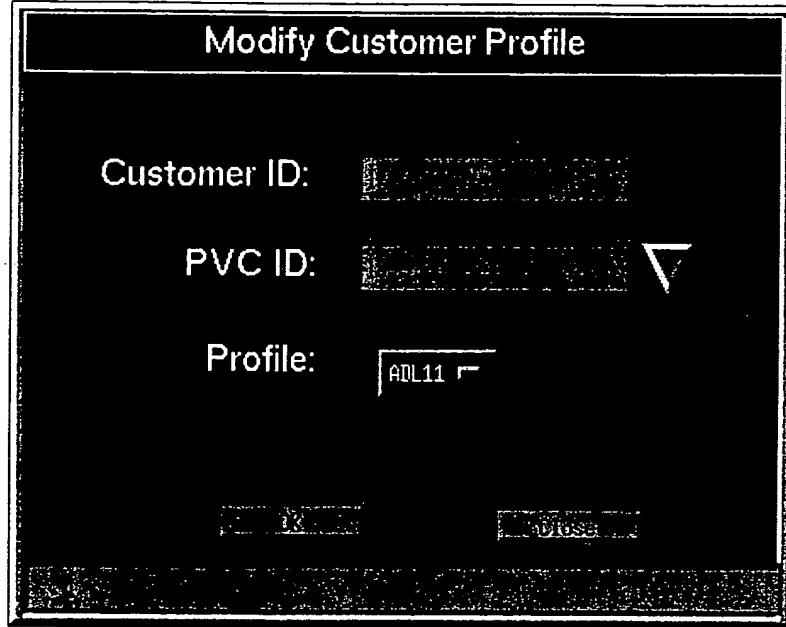
7.8 Modifying a Customer's Profile

This section discusses modifying a customer's profile. This screen is used to reduce customer ADSL connections speed to a maintenance mode (28K).



Note: *The creation and deletion of customer PVCs is discussed in Chapter 4. Here we discuss only the modifying of a customer's profile.*

1. On the *BellSouthRegion* window menu bar, click on *Service*, then *ATUR-NSP*, then *Modify Customer Profile*.
2. The *Modify Customer Profile* window displays (as shown on the following page).



1. Enter the customer telephone number and press **<Tab>**.
2. The pick list field below populates with a PVC selection. Click on the triangle, and select a PVC from the list that displays.
3. Select the maintenance profile (*Maint*) from the list.
4. Click on *OK*.
5. Click on *Close* to close the window.

8. Deleting Network Elements

8.1 Deletion Sequence of Interdependent Elements

Table 8-1 shows the sequence in which interdependent elements may be deleted in the NMS database.

Table 8-1. Deletion Sequence of Interdependent Elements

physical link: DS1, DS3, OC3, or OC12		
Mini-Ram		
NSP	DSLAM	ATM switch
remote site		
location (type Building Location, NSP)		

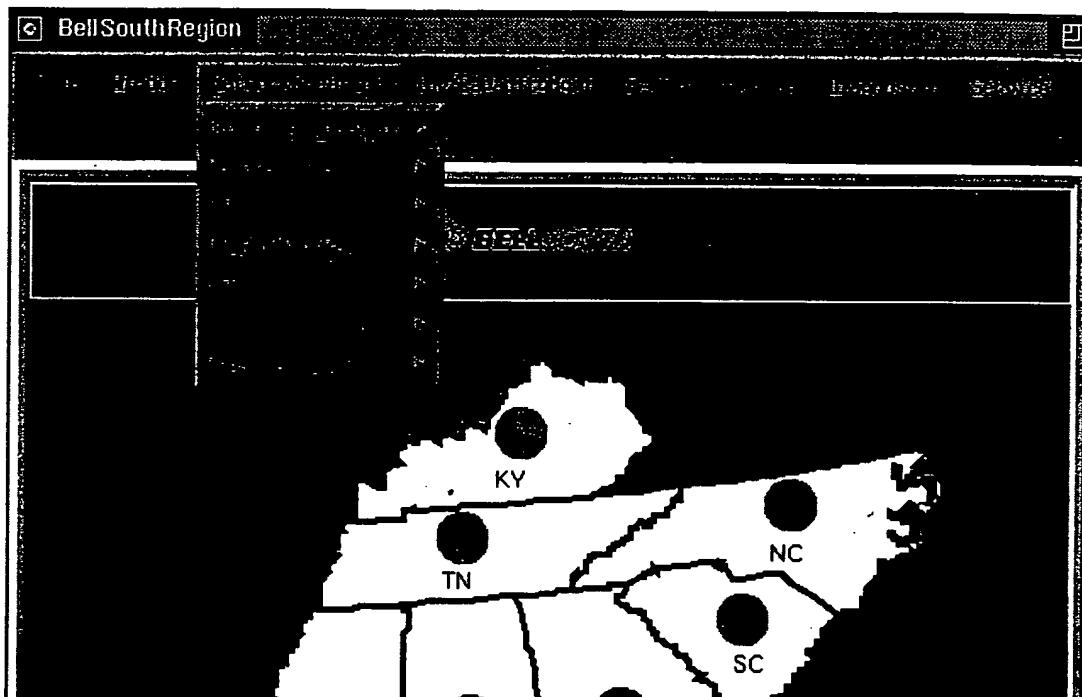
You cannot delete individual components of a Network Element. The deletion of a DSLAM causes the automatic deletion of all its associated racks, shelves, cards, and physical ports.

The following sections describe the specific steps for deleting each network component, and the physical links between these components. User Alert messages that relate to the creation and deletion of these network components are described in Appendix A.

8.2 The Drop-down Menus for Deleting Network Elements

The following pages describe how to delete network elements.

The *Network Creation* drop-down menus (which are used also for deleting network elements) are accessed through the main window menu bar, as shown below.



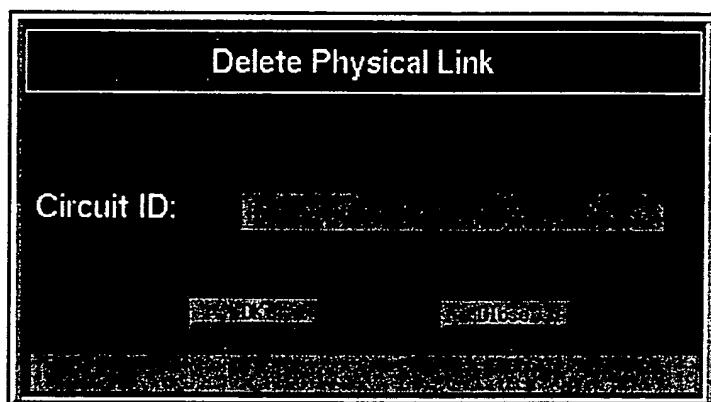
Follow the procedures below for deleting network elements.

8.2.1 Deleting a Physical Link

Procedure

Note: The function proceeds only if there are no ATM PVCs associated with the link. Otherwise, it returns with an error and does not delete the link. Deleting PVCs is discussed in PVC Provisioning, in Chapter 4.

1. On the *BellSouthRegion* window menu bar, click on *NetworkCreation*.
2. On the drop-down menu that appears, select *Physical Link*, then *Delete Physical Link...*.
3. The *Delete Physical Link* window appears (as shown below).



4. In the *Circuit ID*: field, enter the circuit ID.
5. Click on *OK* (or, to cancel, click on *Close*). The data is committed to the database. Observe the text field at the bottom of the screen; confirm that the operation was successful.
6. Click on *Close* to close the window.

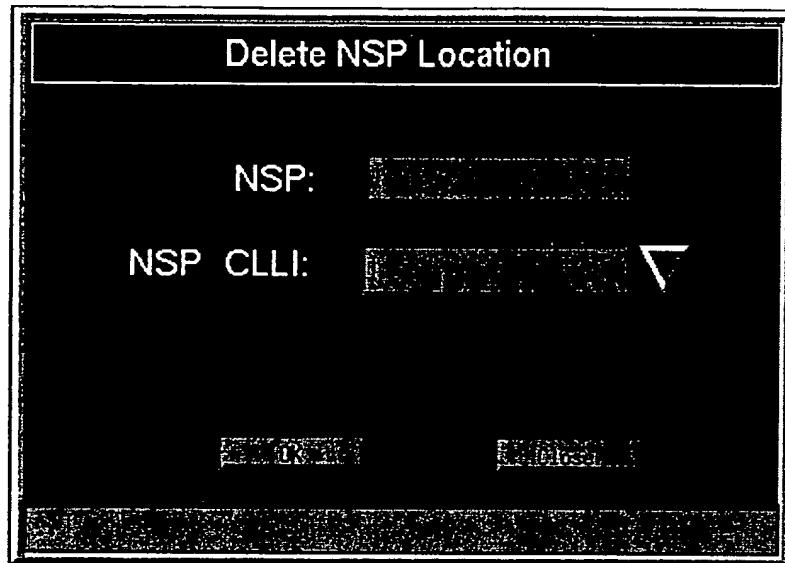
8.2.2 Deleting an NSP

The following prerequisites exist:

- Verify in NMS that all PVCs have been disconnected from the NSP to the DSLAM, before any further action can take place.
- Verify that each physical link connecting the NSP to the ATM subnetwork, upon receipt of disconnect orders from the TIRKS system, have been deleted in NMS.

Procedure

1. On the BellSouthRegion window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select NSP, then *Delete NSP*....
3. The *Delete - NSP Location* window displays (as shown on the following page).



4. In the *NSP:* field, enter the NSP name, and then press <Enter>. The *CLLI:* field populates.
5. In the *CLLI:* field, click on the pick list triangle, and select the CLLI from the pick list.
6. Click on *OK* (or, to cancel, click on *Close*). The delete is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
7. Click on *Close* to close the window.

The function proceeds only if the above prerequisites have been completed. Otherwise, NMS will return an error and not delete the NSP.

8.2.3 Deleting a DSLAM or Mini-Ram

Deleting a DSLAM or Mini-Ram may be needed to correct an erroneous entry in the database, or as part of the flow to physically remove a DSLAM or Mini-Ram.

The following prerequisites exist:

To remove a DSLAM or Mini-Ram, it must be verified in NMS that the DSLAM or Mini-Ram as a whole does not support any ATM PVCs. No PVCs should exist on the DSLAM or Mini-Ram. All customers assigned to that DSLAM must be disconnected and all PVCs must be removed before any further action can take place.

- The physical link, connecting the DSLAM to the ATM subnetwork upon receipt of a disconnect order from the TIRKS system, has been deleted.
- The physical port, on the edge of the ATM subnetwork that terminated the physical link, has been deleted.

Procedure

1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *DSLAM/MiniRam*, then *Delete DSLAM/MiniRam....*
3. The *Delete DSLAM/MiniRam* window appears (as shown below).



4. In the *CLLI:* field, enter the CLLI code.

5. Click on *OK* (or, to cancel, click on *Close*). The delete is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.

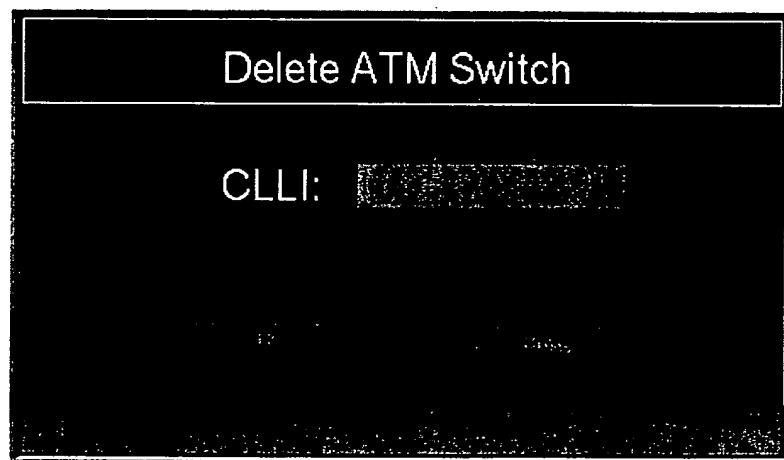
6. Click on *Close* to close the window.

The delete proceeds only if there is no physical link associated with the DSLAM. Otherwise, the delete returns with an error and does not delete the DSLAM.

Deleting the DSLAM deletes all associated cards and alerts.

8.2.4 Deleting an ATM Switch

1. On the *BellSouthRegion* window menu bar, click on *NetworkCreation*.
2. On the drop-down menu that appears, select *ATM*, then *ATM Switch*, then *Delete ATM Switch*.
3. The *Delete ATM Switch* window displays, as shown below).

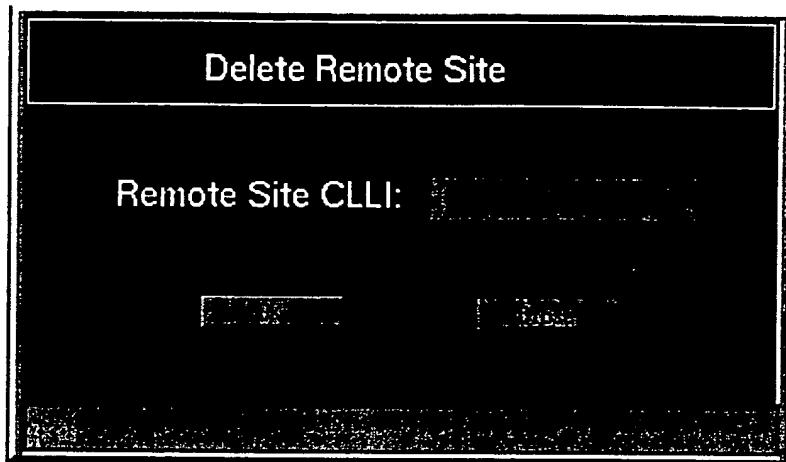


4. In the *CLLI:* field, enter the CLLI code.
5. Click on *OK* (or, to cancel, click on *Close*). The delete is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
6. Click on *Close* to close the window.

8.2.5 Deleting a Remote Site

Procedure

1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *Remote Site*, then *Delete Remote Site...* (as shown below).

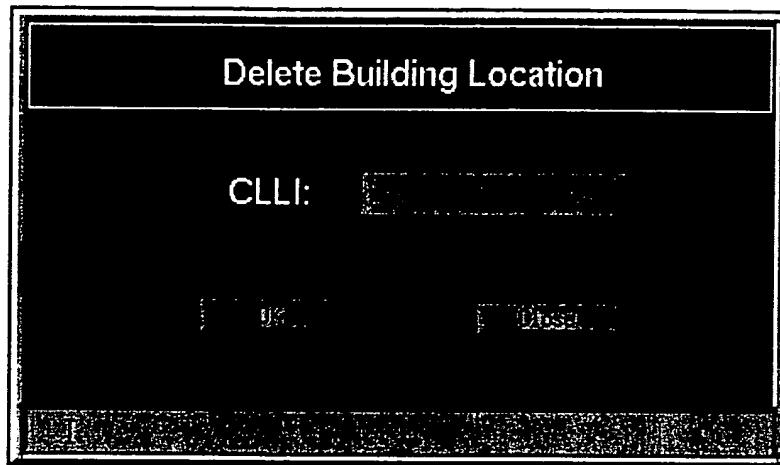


3. Enter the CLLI for the remote site that you wish to delete, and then click on *OK*. The site is deleted.
4. Click on *Close* to close the window.

8.2.6 Deleting a Building Location

Procedure

1. On the *BellSouthRegion* window menu bar, click on NetworkCreation.
2. On the drop-down menu that appears, select *Building Location*, then *Delete Building Loc....*
3. The *Delete Building Location* window appears, as shown below.



4. In the *CLLI:* field, enter the CLLI of the building location.
5. Click on *OK* (or, to cancel, click on *Close*). The delete is committed to the database. Observe the text window at bottom of the screen; confirm that the operation was successful.
6. Click on *Close* to close the window.

The location is deleted. However, it cannot be deleted if:

- The location has any DSLAM or ATM switch associated with the location.
- It has any physical ports associated with it that are associated with physical links.

Deleting a location also deletes the ATM physical port on the ATM subnetwork that is associated with the location. These ports have no associated physical links.

Appendix: Alert Messages

The following is a list of the alert messages that may appear in NMS, along with a description of the condition that generated the alert.

Alert Line Column Definitions

The following table identifies each column heading. One alert is identified in each alert line.

Heading	Description
AMO class	Affected Managed Object Class. It is the class of the AMO shown in the AMO field.
AMO	Affected Managed Object. It is the name of the device that is generating the alert. The information in this field is configured in the Managed Object Editor.
Manager Class	The class of the Manager shown in the Manager field. It is configured in the Managed Object Editor.
Manager	The name of the Manager. It is configured in the Managed Object Editor.
Description	Identifies the problem and can include specific information. Alert text is entered in the Alert Edit window in the Rule Editor and can include values of attributes.
Create Date	Date that the alert was generated. It is generated within NetExpert, and uses the UNIX internal date stamp.
Create Time	Time that the alert was identified, but can be different from the time the problem actually occurred. Generated from within NetExpert; uses the internal clock of the host.
Operator	Name of the operator who acknowledges the alert. It is based on the name the operator entered into the <i>Name</i> field of the Client Manager Logon window.
Count	The number of occurrences of this particular alert. It is reset when the alert is cleared.
Severity	This field notifies the operator of the severity of the Alert: Critical, Major, Minor, Warning, or Indeterminate; also indicated by the color of the alert line.
TT #	Trouble Ticket number. The number and status of the TT that was most recently assigned to this alert. If the ttagent is used, numeric, third-party ticket numbers are displayed here.
Alert Name	Name of the Alert that is assigned in the Alert Edit window.
Update Date	Date of the most recent occurrence of this alert.
Update Time	Time of the most recent occurrence of this alert.

Fault Management and Correlation Internal Alerts

This is a description of internal alerts that can occur during fault management and correlation.

The alert message format is:

Alert: <Alert Name> <Full Alert Name>

Desc: <Description>

<Description text 1>

<Description text 2>

A single alert can have multiple description texts. This is a trade-off against having separate alerts for each different situation (e.g., failure reasons). Some of the alerts are status messages, where the description text updates as a request is in progress.

Alert: FmInternal "Internal Fault Management Alert"

Desc: Generated as a result of some unexpected condition that prohibits Fault Management from performing correlation or generating a certain alert. These also can arise if the database is corrupted.

PPort_Down Event, CardPPort_Down Event, Ckt_Down Event:

"Port <pport> has no Physical Link!"

"Physical Link has no ZEndPoint!"

"Physical Link has no AEndPoint!"

"<asam> of <pport> does not exist in MIB"

SendToNMA Event:

"<asam> is not 11 chars - cannot send to NMA"

Alerts Generated when Interacting with the Asam

This is a description of alerts that can occur when the Asam is being commanded, either via the GUI (e.g., creating a cross-connection) or automatically (e.g., periodic inventory). These alerts are not part of the requirements, but are critical to conveying important information to the operator for troubleshooting and other diagnostics.

The format is:

Alert: <Alert Name> <Full Alert Name>
Desc: <Description>
 <Description text 1>
 <Description text 2>

A single alert can have multiple description texts. This is a trade-off against having separate alerts for each different situation (e.g., failure reasons). Some of the alerts are status messages, where the description text updates as a request is in progress.

Alert:	PVC-FAIL "PVC Failed"
Desc:	An informational message that conveys the current status of attempts to create a cross-connection. If there is a problem creating the cross-connect, that information is conveyed using this alert. This is very DSLAM-specific, rather than service-specific, and is most useful for troubleshooting. The <reason> field can be one of many possible four-character codes. Of these, three are specifically recognized and translated. The others are simply passed along. <i>"Can't create XConnect: Port clii-r-s-s-p does not exist!"</i> <i>"CC NT-vpi-vcixLT-r-s-s-p-vpi-vci exists"</i> <i>"Could not create ntvcl-vpi-vci. Reason: <reason>, <text1>, <text2>"</i> <i>"Could not create ltvcl-r-s-s-p-vpi-vci. All Resources Busy"</i> <i>"Could not create ltvcl-r-s-s-p-vpi-vci. SNMP cmd failed"</i> <i>"Could not create ltvcl-r-s-s-p-vpi-vci. CC Exists on LT."</i> <i>"Could not create ltvcl-r-s-s-p-vpi-vci. Reason: <reason>"</i> <i>"DENY on placing r-s-s-p into IS state"</i> <i>"Could not create CConnect. All Resources Busy"</i> <i>"Could not create CConnect. SNMP Command Failed"</i> <i>"Could not create CConnect. CC Exists on LT or NT"</i> <i>"Could not create CConnect. Reason: <reason>, <text1>, <text2>"</i>

Alert: **DSLAMCapStatus** "DSLAM Capacity request status"

Desc: Informational message that indicates the progress of a capacity request to a DSLAM. This alert will time out on its own.

"Getting Capacity infor for <asam> - Rack <rack>, Shelf <shelf>"

"...done with Capacity on <asam>"

Alert: **DSLAMCapTimeout** "DSLAM Capacity request timeout"

Desc: Generated when the command to retrieve ADSL information from the DSLAM does not receive a response back within five seconds. It clears any **DSLAMCapStatus** message.

"Could not rtrv-adsl from <asam> - timed out. Aborting capacity"

Alert: **DSLAMInvStatus** "DSLAM Inventory request status"

Desc: Informational message that indicates the progress of an inventory request from a DSLAM. This alert will time out on its own.

"Getting Equipment Inventory info for <asam>..."

Alert: **DSLAMInvTimeout** "DSLAM Inventory request timeout"

Desc: Generated when the command to retrieve DSLAM inventory from the DSLAM does not receive a response back within five seconds. It clears any **DSLAMInvStatus** message.

"Could not Get Inventory from <asam> - timed out"

Alert: **KeepAliveFail** "Failure in sending Asam KeepAlive"

Desc: To keep the channel open to an Asam, an *rtrv-eqpt* is periodically sent to the Asam. If the request times out, this alert is raised.

"Could not Send rtrv-eqpt to <asam> - timed out"

Alert: **LogonFailed** "Failed when attempting a Logon (act-user)"

Desc: If NMS tries to send a keep alive (*rtrv-eqpt*) to the Asam, and the response is that NMS is not logged in, NMS attempts to log on. If the attempt fails, this alert is generated. This can happen either when the attempt is DENY'd or it times out. This alert can also occur at gateway startup.

"Logon to <asam> denied."

"Could not Logon to <asam> - timed out"

Alert: **LogOffFailed** "Failed when attempting a Logoff (canc-user)"

Desc: If NMS tries to send a Logoff (canc-user) to the Asam, and the attempt fails, this alert is generated. This can happen either when the attempt is DENY'd or it times out. This alert can occur at gateway shutdown.
"Logon to <asam> denied."

Alert: **DSLAMCustStatus** "Status of RESTORE or DENY customer service"

Desc: Message relating the status of a RESTORE or DENY request. Indicates the progress of the request and its final result.
"Attempting <DENY/RESTORE> on <asam port>..."
"Successful <DENY/RESTORE> on <asam port>"
"Unable to <DENY/RESTORE> service on <asam port> after <num> tries - resources busy. Try again later."
"Unable to <DENY/RESTORE> service on <asam port>. Reason: <reason>"

Alerts Generated during Network Creation

All the alerts require manual clearing unless mentioned otherwise.

The name of an affected managed object (AMO) for an alert is the operator name.

NCContainsEquip <major>

Cause: Trying to remove a Building Location that still contains equipment (DSLAMs or ATM switches).

User Action: First remove contained equipment.

NCContainsLinks <major>

Cause: Trying to remove a DSLAM, an ATM switch, NSP Location, or an ATM port that contains physical links.

User Action: First remove the contained physical links.

NCContainsPVC <major>

Cause: Trying to remove a physical link between a DSLAM and an ATM switch or between an ATM switch and an NSP Location while there are still PVCs in the physical link.

User Action: Issue SOs to remove the PVCs first.

NCDupAttr <major>

Cause: 1. One of the values in the Rack Map is being used by some other DSLAM in the same Building Location while creating a new DSLAM or editing an existing DSLAM. 2. The IP address entered for a new ATM switch is being used by some other ATM switch.

User Action: 1. Make sure the COSMOS names in the Rack Map are unique among DSLAMs in the same Building Location. 2. Make sure the IP addresses of ATM switches are unique.

NCNoDslamRack <major>

NCNoDslamCard <major>

NCNoDslamPort <major>

Cause: One of DSLAM rack, card, or port cannot be found on the DSLAM when processing an SO that creates a new service.

User Action: Correct the SO to have a valid ADSL port.

NCOBJECTExists <minor>

Cause: Trying to create a DSLAM, an ATM switch, a Building Location, an NSP Location, a Physical Link, or an ATM port that already exists.

User Action: Make sure the object being created does not exist.

NCPortHasLink <major>

Cause: The DSLAM port or the ATM switch port already has a physical link when it is used in creating a new physical link.

User Action: Make sure the ports do not have physical link when they are used in creating a new physical link.

NCContactCrErr <critical>

NCSysCreateErr <critical>

NCSysDeleteErr <critical>

NCUnknownNtType <critical>

Cause: System malfunction.

User Action: Escalate the problem immediately.

Alerts Generated during Service Order Processing

The following is a list of alerts that can be generated from the SO processing. The name of an affected managed object (AMO) for an alert contains the SO number.

Note: *NMS does not keep an SO if an alert is generated against it, except for alerts SO-COMPLETE, SO-FAIL, and SO-STATUS, which are generated during the execution of an SO that is already stored in NMS.*

Users should report cases where they suspect SO execution activities, but do not see the three alerts. SOs that fail to be stored in NMS will have to either be entered from the screens or corrected from SOCS.

SO-COMPLETE <indeterminate>

Cause: A SO has successfully completed execution.

User Action: None. Alert goes away by itself after five minutes.

SO-FAIL <critical>

Cause: Provisioning process failure. There should be another associated alert that describes the problem.

User Action: Access the *Edit Pending Service Order* window and retrieve the SO number/type. All data fields will be populated from the SO. Check other related alerts and review the SO to determine the problems, correct them, and issue the SO again.

SO-NoService <major>

Cause: No ADSL service is found for a TN when denying, restoring, or disconnecting a service for the TN.

User Action: Make sure ADSL service exists for the TN when denying, restoring, or disconnecting a service.

SO-ParseError <major>

Cause: SOCS gateway has reported trouble on an SO.

User Action: See the description of the alert to determine the cause. Correct the problem and issue the SO again.

SO-RMA <major>

Cause 1.: The SO contains CRO or RRSO FID, or is a T/F order.

Cause 2.: Processing has timed out because system gateway, DSLAM, or ATM switch is not responding.

Cause 3.: There is no TN in the SO to perform service operation.

User Action: See the description of the alert to determine the cause, and:

1. Process the order manually.
2. Check the system gateways, DSLAMs, ATM switches, and EMS systems and make sure they are functioning.
3. Process the order manually.

SO-SOCSInfErr <critical>

Cause: SOCS gateway is not responding.

User Action: Make sure the NMS system and the SOCS gateway are functioning correctly. Escalate the problem if the problem can not be resolved immediately. The alert will go away by itself when the NMS system and the SOCS gateway is communicating again.

SO-STATUS <indeterminate>

Cause: Reporting SO status when executing an SO.

User Action: None. Goes away by itself after the SO execution finishes.

SO-ValSOFail <major>

Cause: The validation of a SO header has failed.

User Action: This alert occurs when a SO fails during the parsing of the header section of the SO. This is caused when the SO number/type cannot be found for an order that was previously issued. The SO will be parsed if it is for a CP status. If the status is for a CA, the order is not kept, and the alert is issued for information only.

SO-ValServFail <major>

Cause: The validation of a service for a TN in an SO has failed.

User Action: If a SO failure occurs because of invalid data found during the building of the SO information, the NMS user must review the SO to determine why the data is invalid, and make a request for the order to be updated in SOCS with the correct data.

SO-CreateFail <critical>

SO-DeleteFail <critical>

SO-ErrCrSubr <critical>

Cause: System malfunction.

User Action: Escalate the problem immediately.

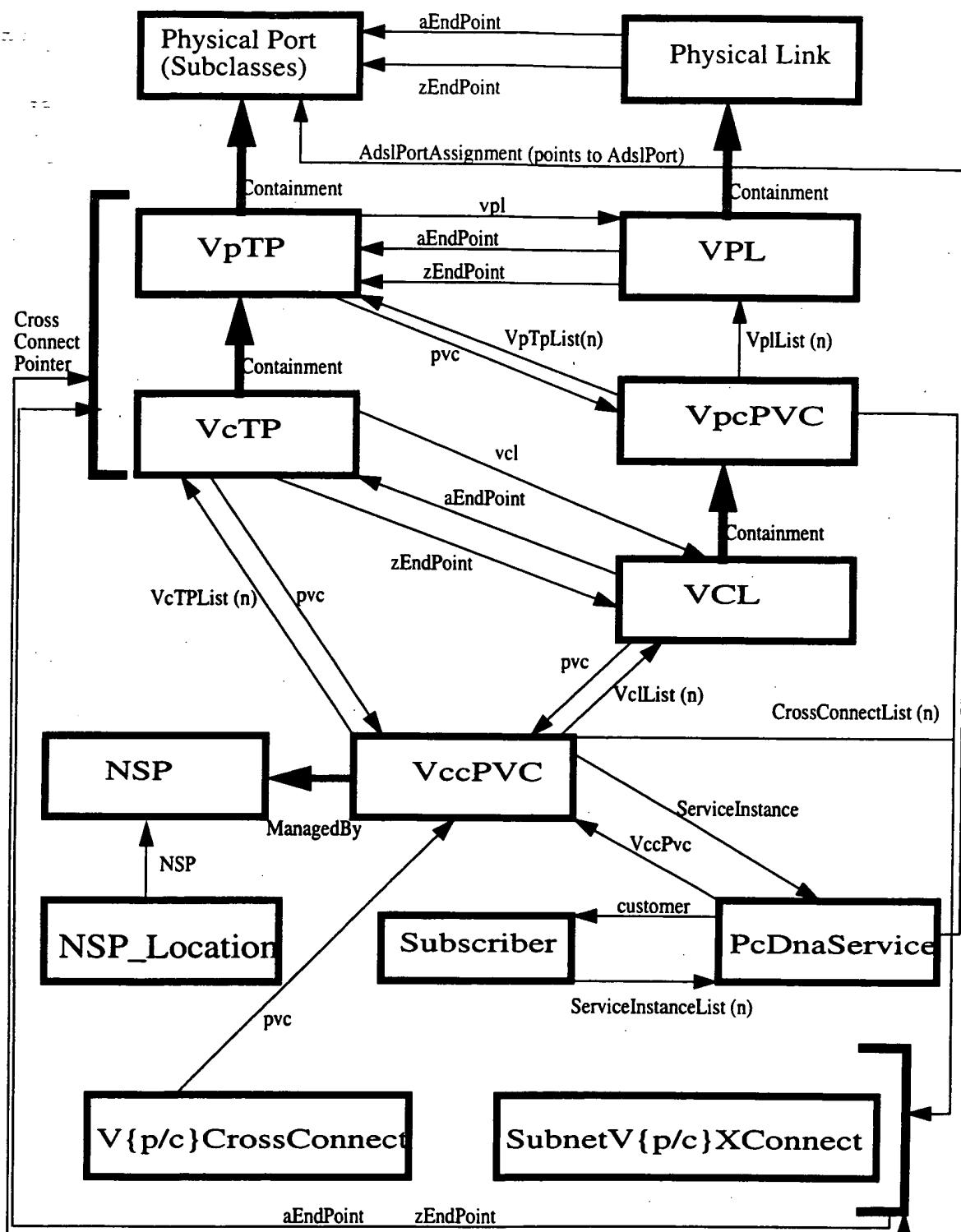


Figure 2.1-1 ADSL - PVC (Object Class Relationship)

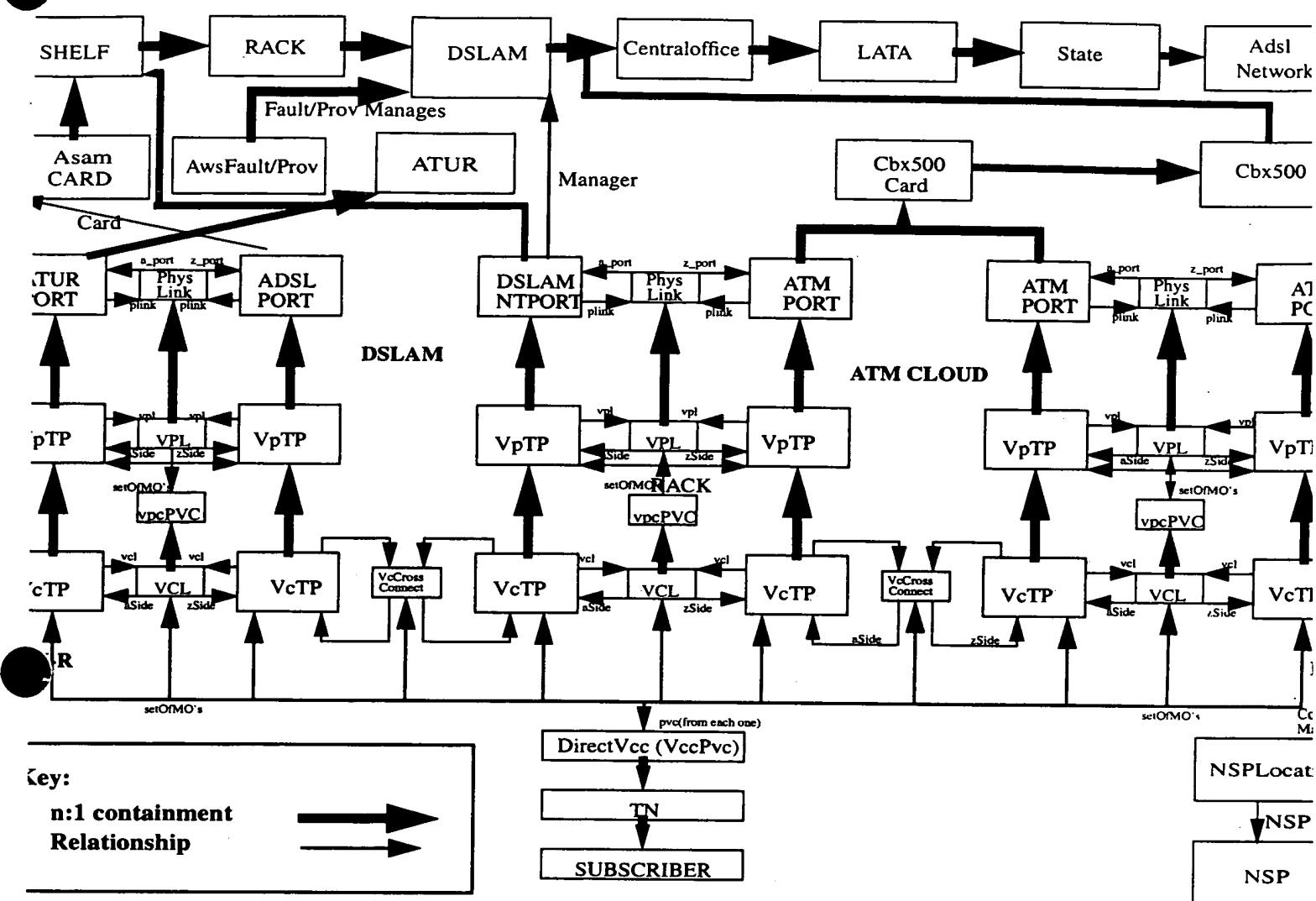


Figure 2.1-2 ADSL Object Relationships - Customer to NSP

The following Classes show the class relationships used to instantiate components of the ADSL Network.

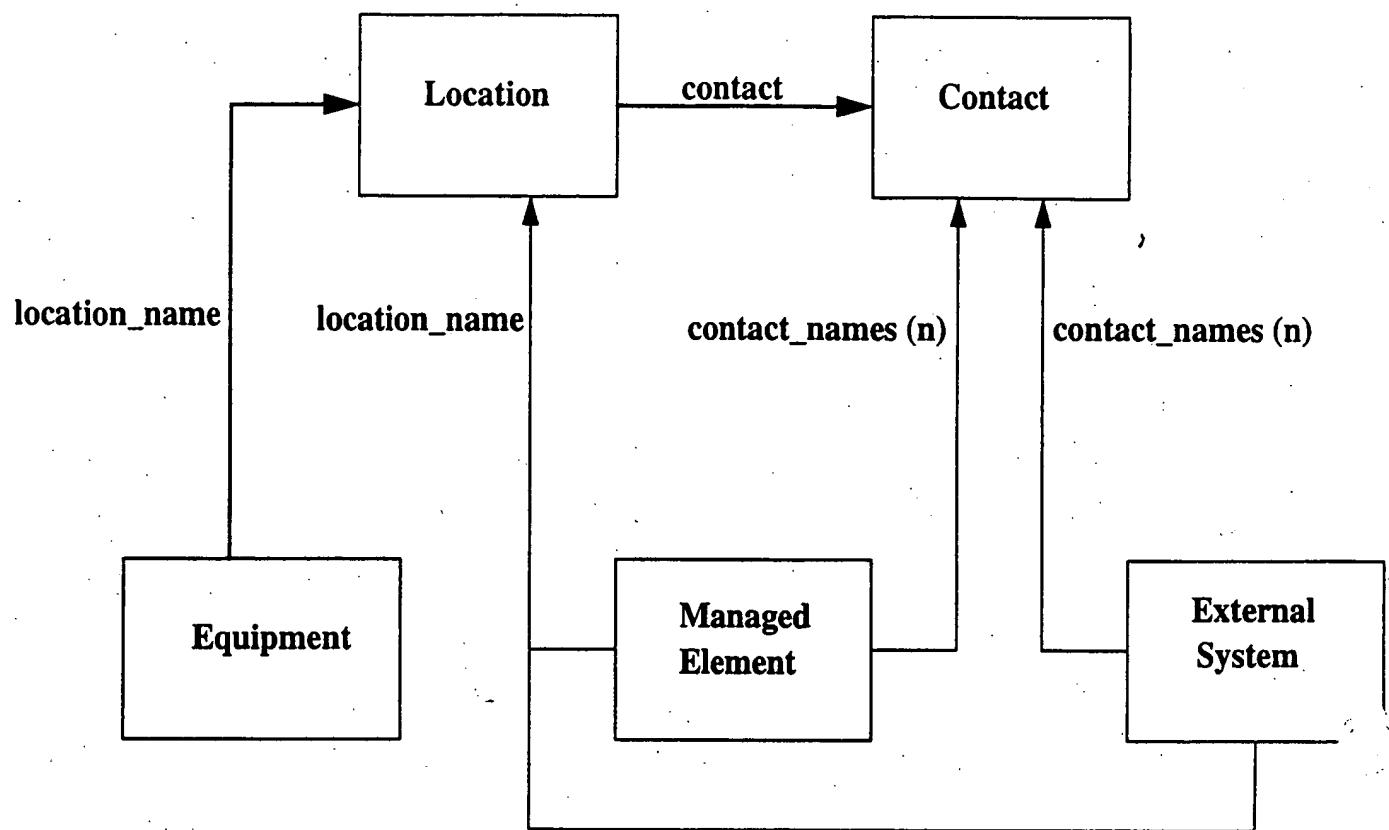


Figure 2.1-4 ADSL - Relationships to/inherited from Seeded Classes

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1. ContainedIn/Contains
2. Subnet/Switches
3. ServiceProvider/NSPLocations
4. VpcPVC
5. SubtendUp/SubtendDown

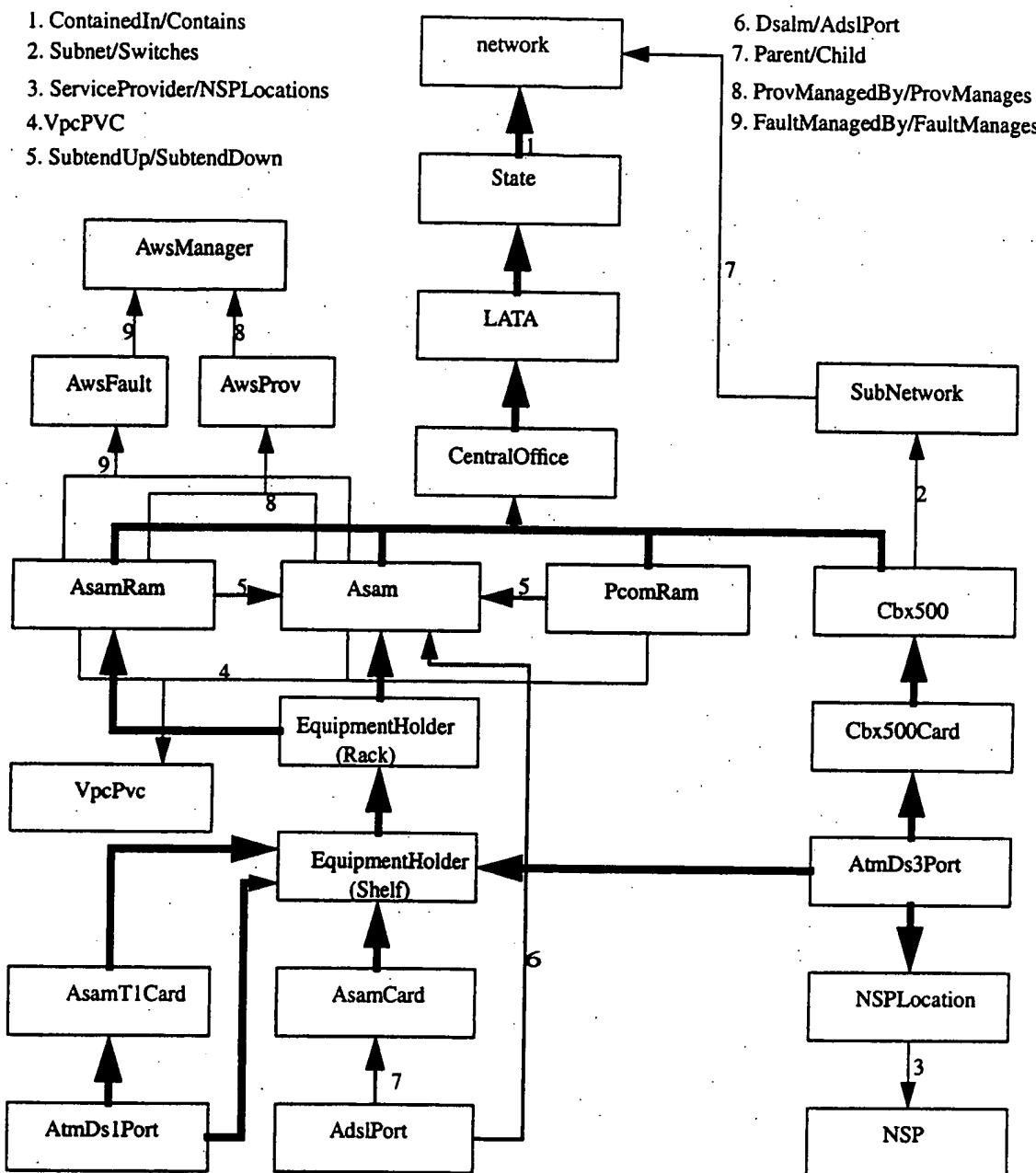


Figure 2.1-3 ADSL - Network Creation (Class Relationships)

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